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# Revision of the genera Agonocheila Chaudoir and Minuthodes Andrewes in New Guinea

(Insecta, Coleoptera, Carabidae, Lebiinae)

#### Martin Baehr

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As a second part of revisions of lebiine genera from New Guinea, the New Guinean species of the related genera *Agonocheila* Chaudoir and *Minuthodes* Andrewes are revised. For both genera revised diagnoses are provided. For the New Guinean species of *Agonocheila* two new genera *Cheilagona*, gen. nov. and *Pseudoplatia*, gen. nov. are erected. Some New Guinean species formerly included in *Minuthodes* also belong to the latter new genus. *Cheilagona* includes a few Australian species, whereas *Pseudoplatia* apparently is restricted to New Guinea.

The New Guinean Agonocheila gressitti Darlington, A. rufa Darlington, and A. variabilis Darlington and the two Australian species Agonocheila stictica Blackburn and A. ovalis Sloane are transferred to the new genus Cheilagona, whereas Agonocheila minuthoides Darlington, A. duplicata Darlington, A. expansa Darlington, A. dorsata Darlington, Minuthodes rossi Darlington, M. sedlacekorum Darlington, and M. subnitens Darlington are moved to Pseudoplatia. Agonocheila duplicata Darlington, 1968, is synonymized with Minuthodes sedlacekorum Darlington, 1968. As the ranges of both named subspecies of Minuthodes sexualis Darlington largely overlap and they were described only on behalf of their different elytral pattern that, however, varies considerably within both nominal taxa, M. sexualis signata Darlington is synonymized with the nominate subspecies. Based on differences in body size, shape of pronotum, shape of female terminal abdominal sternite, elytral pattern, and shape of aedeagus, M. sexualis is divided into three taxa that are described as species which are sympatric in certain areas.

Following taxa are described as new: Minuthodes atrata, M. rectimargo, Cheilagona gressitti planata, C. nigropicea, Pseudoplatia dorsata minor, P. drumonti, P. latipennis, P. missai, P. georgei, P. recticollis, P. riedeli, and P. gerdi. Revised keys to the New Guinean species of the genera Minuthodes, Cheilagona, and Pseudoplatia are provided. A checklist of all species with notes on distribution is added.

Dr. Martin Baehr, Zoologische Staatssammlung, Münchhausenstr. 21, D-81247 München, Germany; e-mail: martin.baehr@zsm.mwn.de

#### Introduction

As a second part of revisions of lebiine genera from New Guinea (see Baehr 2004) the species of the related genera *Agonocheila* Chaudoir and *Minuthodes* Andrewes in New Guinea are revised. *Agonocheila* and *Minuthodes* are very similar in shape and external structure and thus are easily confused. Even Darlington (1968) in his famous monography about the carabid beetles of New Guinea gave only very weak distinguishing characters that actually are of little use for a definitive distinction. As a consequence, he not only intermixed both genera, but described two extremely similar species (if they are

even separate species!) in different genera. The crucial point is that the genus *Agonocheila* in its present sense is not only numerous in Australia but is also very heterogenous in shape and structure, so that it may be divided in future into certain separate genera. Hence, as a first step to clear up the situation, the genus *Minuthodes* is being more strictly defined herein. Then the genus *Agonocheila* is defined more exactly, in particular with respect to the named New Guinean species. Further division of the Australian *Agonocheila*, however, cannot be done unless the many described and undescribed Australian species are thoroughly revised.

Minuthodes Andrewes (former Platia Chaudoir) in its present sense as used by Darlington (1968) and Lorenz (1998) includes 20 species and one additional subspecies and is distributed from Sulawesi and the Moluccas through New Guinea to eastern and northern Australia and to Solomon Islands. Darlington's (1968, p. 95) treatment of the New Guinean fauna includes 9 species and one subspecies, of which only M. papuana (Sloane) was known prior to Darlington's paper. For the reasons discussed above, however, three species described by Darlington would belong to Agonocheila in its former sense (see below) rather than Minuthodes when the revised diagnosis (see below) of Minuthodes is applied.

Agonocheila is mainly an Australian genus which, according to the most recent catalogue (Moore et al 1987) in Australia includes 31 described species, though A. froggatti (Macleay) and A. minima (Macleay) in the meantime were removed to Minuthodes Andrewes (Baehr 1990). Certainly, in Australia the genus Agonocheila is even far more numerous in terms of species, but any attempt to work on this genus or even to identify species apart from very few well known ones, is of little use until the genus has been thoroughly revised by strict comparison with the types. Apart from Australia, the genus in its former sense extends to New Guinea but apparently not further north. From New Guinea, Darlington described 7 species (Darlington 1968, p. 118).

Material supply for Darlington was quite unsatisfactory which most probably was due to very insufficient sampling efforts, in particular in the western half of New Guinea (Irian Jaya, or present Papua). In the meantime western New Guinea was slightly better explored, mainly through the efforts of certain recent collectors, but knowledge still is far from being satisfactory.

During my work of identification of the fine samplings of A. Riedel (Karlsruhe) and a few other collectors, and of the sample captured by the fogging activities of O. Missa of IRSNB (Brüssels) (see Baehr 2004) I decided to revise the related genera *Agonocheila* Chaudoir and *Minuthodes* Andrewes together,

because reasonable identifications are impossible without comparison with the types, in spite of Darlington's keys to both genera (Darlington 1968, pp. 96 and 119). While trying to do identifications, I also recognized the difficulties in distinguishing both genera and furtheron, to define genera on the whole. And indeed, the morphological differences are rather weak and so far it was rather a matter of opinion where to draw the borderline between the genera. As a consequence, in the present paper the genera are more restricted and two additional genera are described to gain a less ambiguous classification.

#### Material and methods

Altogether, about 360 New Guinean specimens were available for this study of which more than 200, however, belong to the well known and easily identified species *M. papuana* (Sloane) and *M. regularis* Darlington. Most other species of *Minuthodes* and almost all of *Agonocheila* s. l. either seem to be much rarer than these, or they were not yet sampled by appropriate methods.

For comparison I examined material and/or types of almost all extra-New Guinean species of *Minuthodes* and of 26 identified (i.e. compared with the types) and additional 30 unidentified Australian species of *Agono-*

cheila from my own working collection.

Due to the kindness of the curators mentioned under "Acknowledgements" I was able to compare the types of almost all New Guinean and extra-New Guinean species of *Minuthodes* and of all species of New Guinean *Agonocheila*, except for the type of *M. simplex* Darlington which, however, is easily identified from description.

For the taxonomic treatment standard methods were used. The male genitalia were removed from specimens soaked for a night in a jar under wet atmosphere, then cleaned for a short while in hot KOH.

For examination of the generally fine though taxonomically important punctuation and microreticulation of the surface a high quality stereo microscope with up to 64× magnification was used, supported by a lamp of high intensity giving natural light that could be focussed. For exact definition of the microsculpture such light is preferable, because fibre-glass optics substantially change the impression of the surface structures.

The habitus photographs were obtained by a digital camera using ProgRes Capture Basic and AutoMontage and subsequently were worked with Corel Photo

Paint 10.

Measurements were taken using a stereo microscope with an ocular micrometer. Length has been measured from apex of labrum to apex of elytra. Lengths, therefore, may slightly differ from those of other authors. Length of pronotum was measured along midline.

#### Characters

Although colour pattern seems very significant in the patterned species, elytral pattern and colouration may vary to a considerable degree, or, on the other hand, may be very similar in related species. Thus, pattern is not always the best way to distinguish between species. In many species degree and structure of microsculpture and pilosity of the surface can be well used as differentiating characters. As size also varies to a considerable degree within species, body shape, structure of surface, and structure of the male genitalia generally yield the best character for distinction of species. Shape and structure of aedeagus and genital ring also are useful for distinction of the genera.

#### Abbreviations of collections

ANIC Australian National Insect Collection, Canber-

**BMH** B. P. Bishop Museum, Honolulu

CAS California Academy of Science, San Francisco

CBM Working collection M. Baehr at Zoologische Staatssammlung, München

DEI Deutsches Entomologisches Institut, Münch-

HNMB Hungarian National Museum of Natural History, Budapest

IRSNB Institut Royal des Sciences Naturelles, Brux-

MCZ Museum of Comparative Zoology, Cambridge/

MNHB Museum für Naturkunde der Humboldt Universität, Berlin

MNHP Muséum National d'Histoire Naturelle, Paris

NHM The Natural History Museum, London

QMB Queensland Museum, Brisbane

## Key to the genera of New Guinean lebiine ground beetles, formerly alluded to the genera Minuthodes Andrewes and Agonocheila Chaudoir

Note. This key applies to all known species of both mentioned genera, i.e. also the extra New Guinean ones, but it should be noted that the Australian "Agonocheila" are so heterogenous that in future they probably will be divided further into certain separate genera. To accommodate this situation, the New Guinean species of "Agonocheila" have been divided into two new genera that in future should be applied also to the Australian "Agonocheila".

Although shape and structure of the male genitalia are quite characteristic for the three New Guinean genera, this key does not make use of genitalic characters, because few Australian "Agonocheila" were dissected so far, which means that no general statements are possible at present about their male genitalia. Even the few species dissected show a number of quite different types of aedeagi bearing denticulate plates or spines, or not, but all being quite different from the aedeagi of the three genera mentioned below.

- Head very large with large, semicircular eyes and pronotum wide or very wide, cordiform with angulate to acute basal angles and anterior lateral pronotal seta situated at or in front of apical third and elytra wide, markedly depressed, quadrate and pilosity of pronotum and elytra short, regular, and usually depressed [except for the glossy black, conspicuously quadrimaculate M. multisetosa Baehr that has erect pronotal pilosity] and head impilose [except for M. multisetosa Baehr that has a sparsely pilose head]. Sulawesi, Moluccas, New Guinea, New Britain, Solomon Islands, Australia.....
- Not all these characters together present; head and pronotum always with dense and usually rather elongate, commonly erect pilosity; pilosity of elytra dense, usually more elongate and less depressed; anterior lateral pronotal seta usually situated behind apical third, slightly in front of middle (this latter character state applies to all New Guinean species, but not to all Australian "Agonocheila"!) ......2.

Whole surface covered with dense and rather elongate, commonly fairly erect pilosity; margin of pronotum and elytra with dense, elongate fringe of setae; upper surface of tibiae plainly pilose; elytral pattern composed of many interrupted elongate light stripes, or remarkably variegate. New Guinea.....

......Pseudoplatia, gen. nov.

- Surface usually covered with less dense, and shorter, usually depressed pilosity; margin of pronotum and elytra without fringe of setae; upper surface of tibiae not plainly pilose; elytral pattern mostly simple, uni- or biplagiate, or with a light sutural stripe, less commonly more variegate, but never with many interrupted elongate light stripes......3.
- Elytra dorsally and laterally remarkably convex, reversely oviform; pronotum narrow, dorsally convex, barely cordiform and with more or less obtuse basal angles, lateral margin barely explanate. New Guinea, northern Australia.......

 Elytra dorsally depressed, laterally less convex, not reversely oviform; pronotum wide, dorsally more or less depressed, cordiform and with angulate or acute basal angles, lateral margin usually widely explanate. Australia......

#### Genus Minuthodes Andrewes

Andrewes, 1941: 317; Darlington 1968: 95; Moore et al. 1987: 293; Baehr 1990: 34; Lorenz 1998: 334. *Platia* Chaudoir, 1869: 155 (non *Platia* Hübner, 1820); Sloane 1917: 433; Cziki 1932: 1361.

Type species: *Platia lineella* Chaudoir, 1869 (fixed by Andrewes 1939: 137).

Diagnosis. Genus of Lebiinae, closely related to the genera Agonocheila Chaudoir, Pseudoplatia gen. nov., and Cheilagona, gen. nov., but recognized and distinguished from these by the large head that usually is little narrower than the pronotum; large, semicircular eyes; wide to very wide and short, usually rather cordiform pronotum that has the anterior marginal setae at or in front of anterior third; short and wide, depressed, rather quadrate elytra bearing two or three more or less well discernible setiferous punctures on 3<sup>rd</sup> interval but sometimes additional ones on 5th and 7th intervals; absence of any pilosity, or presence of short, regular, depressed pilosity on pronotum and elytra which usually is very sparse on pronotum; not plainly pubescent upper surfaces of meso- and metatibiae; and small aedeagus devoid of any markedly sclerotized plates or rods, but with a small, triangular, finely denticulate plate in orificium.

The genus combines medium sized to small, always markedly depressed species with wide to very wide pronotum, short and wide elytra, impilose, highly glossy to more or less extensively pilose surface. It includes uniformly black or bluish species and species with different elytra patterns that vary from simply bi- or quadrimaculate to a pattern of many complete or much interrupted longitudinal lines, and even to a higly variegated pattern of lines and spots.

**Distribution.** Sulawesi, Moluccas, New Guinea, Solomon Islands, northern and eastern Australia.

Note. I have examined all types of the genus *Minutludes* except for *M. simplex* Darlington which was not available though is easily recognized through the combination of uniformly black colour, plain dorsal pubescence, and unarmed elytra.

## Key to the Papuan species of the genus Minuthodes Andrewes

Note. As some of Darlington's species originally described in *Minuthodes* are herein removed to the new genus *Pseudoplatia*, a reviewed key for the New Guinean *Minuthodes* is given which should replace both Darlington's key (Darlington 1968, p. 96) and Baehr's partial key (Baehr 1998, p. 240). For the benefit of the user, the single species known to occur on Solomon Islands is included that had been overlooked by Darlington (1968). A key to the Australian species is available in Baehr (1994, p. 37) to which only *M. trimaculata* Baehr (Baehr 2001) should be added.

- 1. Elytra marked with numerous longitudinal yellow lines (Fig. 32). Whole New Guinea, New Britain......papuana (Sloane)
- Elytra differently patterned or unicolourous.... 2.
- Elytra either with reddish or yellow spots, or when unicolourous not metallic blue-black... 3.

- 4. Size larger, body length usually > 5 mm; females with a deep, square excision at apex of terminal abdominal sternite (Fig. 5); pronotum with apical angles distinctly produced; elytra always spotted; subhumeral spot, when present, large and more circular (Figs 38, 39); aedeagus rather large and with short apex (Fig. 1). Whole New Guinea......sexualis Darlington

- Elytra at apex without spine. Goodenough Island east of New Guinea...... simplex Darlington
- 8. Elytra bimaculate at humerus (Fig. 36); apex of elytra rather deeply emarginate. Western Irian Jaya .....biplagiata Baehr

- Pronotum with a single anterior lateral seta; elytra with three short setae on 3<sup>rd</sup> interval only; head impilose, pronotum with sparse, depressed pilosity.......10.

Apart from the *M. sexualis*-complex, no new species were detected in the available material, though I have seen large series of *M. papuana* (Sloane) and of *M. regularis* Darlington, collected by O. Missa during his canopy fogging program carried out in 1993 and 1994 at Baiteta, Madang Province, Papua New Guinea. All other species apart from those of the

sexualis-complex seem to be extremely rare and no additional specimens have been recorded of *M. irregularis* Darlington, *M. metallica* Darlington, *M. multisetosa* Baehr, *M. nigra* Van Emden, and *M. simplex* Darlington, and only one specimen of *M. biplagiata* Baehr (see below), since their description. The taxonomic status of the very polymorphic "*M. sexualis*" Darlington is discussed below.

## Minuthodes biplagiata Baehr, 1998 Fig. 36

Minuthodes biplagiata Baehr, 1998: 236.

New record. 1 $^{\circ}$ , Irian Jaya, Nabire 70 km W, Yamorlake, Gariau, 134 $^{\circ}$ 56'E. 03 $^{\circ}$ 43'S, 1.III.1998, leg. A. Weigel (CBM).

**Note.** This species is recorded only from two localities in western Irian Jaya.

### Minuthodes sexualis-complex

Darlington (1968) described two subspecies of *M. sexualis* mainly based on the presence, or absence of the anterior elytral spot, and he stated that the nominate form (unspotted or bimaculate with a single pale stripe in apical half of each elytron) only occurs in Papua New Guinea, exclusively in the Papua Peninsula, whereas the subspecies *signata* Darlington (bimaculate or quadrimaculate, but when bimaculate with a single pale stripe in basal half of each elytron) was described from Huon Peninsula, but was said to range through almost the whole of New Guinea. Darlington also stated that females of both subspecies generally bear a conspicuous, square excision at the terminal abdominal sternum, though he reported a single exception form this rule.

Apart from these differences of elytral pattern, I was unable to find any other differences in those females available to me that bear the mentioned square excision, although they include bimaculate and quadrimaculate specimens. Because I have both, specimens of the bimaculate sexualis s. str. form and those of the quadrimaculate signata form from the western part of New Guinea, furtheron, because elytral pattern seems to be variable anyway in this complex, and finally, because I was unable to find any other morphological differences between the mentioned specimens, I am sure that the differentiation of Darlington's subspecies is unjustified and therefore, I herewith state that the subspecies signata Darlington is synonymous with the nominate subspecies.

However, a number of examined females (un-

spotted, bimaculate, and quadrimaculate ones) lack the square excision of the terminal abdominal sternum, although they possess the subapical tooth at the metafemur stated to be characteristic for M. sexualis (Fig. 4). They also differ from normal M. sexualis in certain additional characters, e.g. generally minor size, wider pronotum with wider base and barely produced apical angles, elongate, instead of more circular subbasal elytral spot. Also dissection of a couple of males from different localities and bearing different elytral patterns, or no pattern at all, revealed three types of aedeagi, that differ in certain characters even when being quite similar in their general structure. Therefore, three populations can be recognized that differ in body size, shape of pronotum, elytral pattern, shape of female terminal abdominal sternite, and structure of male genitalia. Because their ranges widely overlap and specimens of two populations apparently are sympatric in certain areas, they are herein described as separate species. Although elytral pattern varies significantly in geographically restricted populations in the maculate species, I refrained from describing additional infraspecific taxa which can be done only on the basis of additional and more evenly distributed material.

## Minuthodes sexualis Darlington, 1968 Figs 1, 4, 5, 23, 38, 39

Minuthodes sexualis sexualis Darlington, 1968: 98; Lorenz 1998: 434.

Minuthodes sexualis signata Darlington, 1968: 98; Lorenz 1998: 434 (syn. nov.).

Examined types. Of sexualis sexualis: Holotype: \$\partial Dobodura, Papua N.G. Mar-July, 1944 Darlington / laticeps Chd. as det. Andr. det Darlington at B.M. 1947-48, Notes p. 36 / M.C.Z. Holotype 31404 / Holotype Minuthodes sexualis D. (MCZ). – Paratypes: 1\$\delta\$, 1\$\partial\$, Oro Bay, Papua N.G. Dec'43-Jan'44 Darlington / M.C.Z. Paratype 31404 / Paratype Minuthodes sexualis Darl. (MCZ).

Of sexualis signata: Holotype: ♀, Sambeang, 400M. IV-21-55 / Mongi Watershed, Huon Pen. N. GUINEA, E. O. Wilson / M.C.Z. Holotype 31405 / Holotype Minuthodes signata D. (MCZ). – Paratypes: 1♂, 2♀♀, same data / M.C.Z. Paratype 31405 / Paratype Minuthodes sexualis signata Darl. (MCZ); 1♀, Butala, Mongi R. IV-22.55 / Mongi Watershed, Huon Pen. N. GUINEA, E. O. Wilson / M.C.Z. Paratype 31405 / Paratype Minuthodes sexualis signata Darl. (MCZ); 2♀♀, lower Busu R. Huon Pen. N.G. IV-22.55#, V-12-55# EO Wilson lowl. rainforest / M.C.Z. Paratype 31405 / Paratype Minuthodes sexualis signata Darl. (MCZ); 1♂, 4♀♀, N. GUINEA Birò 1898 / Simbang, Huon Golf / M.C.Z. Paratype 31405 / Paratype Minuthodes sexualis signata Darl. (MCZ).

**Diagnosis.** Usually larger, mostly bimaculate, rarely unimaculate species bearing a deep, quadrate excision at apical rim of female terminal abdominal sternum; further distinguished from both, *M. rectimargo*, spec. nov. and *M. atrata*, spec. nov. by slightly narrower pronotum bearing more advanced anterior angles. Males also distinguished from those of *M. rectimargo* by aedeagus bearing a shorter apex, and from *M. atrata* by longer and narrower aedeagus bearing a slightly longer apex.

## Supplementary description

Measurements. Length: (4.5)4.8-6.0 mm; width: (2.1)2.3-2.7 mm. Ratios. Width/length of prothorax: 1.92-1.98(2.08); width base/apex of prothorax: 0.93-1.0; length/width of elytra: 1.23-1.29; width of elytra/width of prothorax: 1.32-1.40.

Colour (Figs 38, 39). Shining black, elytra always spotted, usually quadrimaculate, but populations from Oro Bay area in Papua New Guinea and from Fakfak Province in western Irian Jaya bimaculate with only the elongate posterior spot present. Anterior spot usually reddish, rather short, gently triangular and posteriorly slightly excised, posterior spot more yellow and elongate, comma-shaped, not or barely extended to adjacent intervals. 2<sup>nd</sup>-4<sup>th</sup> antennomeres in parts reddish, basal and apical antennomeres dark.

Male genitalia (Fig. 1). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular, with narrow symmetric apex and short basis. Aedeagus fairly elongate, lower surface evenly concave, apex short, obtuse. Orificium moderately large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts but with a triangular, finely denticulate plate within orificium. Both parameres rather elongate, left one much larger than right one.

Female genitalia (Figs 5, 23). Terminal abdominal sternite with deep, quadrate excision. Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 short, slightly curved, with rather short apex; with two very elongate ventro-lateral ensiform setae, one elongate dorso-median ensiform seta, and a groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. This species varies in elytral pattern and also somewhat in size. Although most populations cover rather large specimens, here and there extraordinarily small ones are found, as for example the one from Maffin Bay. Elytral pattern varies from quadrimaculate with differently shaped anterior spot to bimaculate with the anterior spot lacking. The pronotum usually is narrower than in both related species, but one specimen from Timika has an ex-

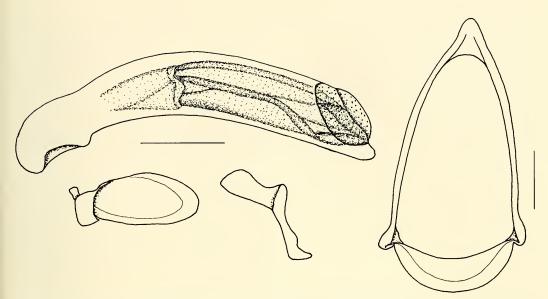


Fig. 1. Minuthodes sexualis (Darlington). Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

traordinarily wide and short one when measured along midline, because in that specimen the apical margin is exceptionally deeply sinuate.

## Distribution. The whole of New Guinea.

New records. Maffin Bay, Dutch N. Guinea, IX-44 E. S. Ross Coll. / Minuthodes sexualis signata Darl. (CAS); W-Neuguinea, Cyclops Mts., 4 km nördl. Sentani, 600 m, 8.-13.9.1990/IR7, leg. Balke & Hendrich (CAS); Irian Jaya, Manokwari, Ransiki, Mayuby, Benyas, 300 m, 28.9.1990, leg. A. Riedel (CBM); Irian Jaya, Manokwari, Ransiki, Mayuby, 26.-30.10.1990, leg. A. Riedel (CBM); Irian Jaya, Manokwari, Gn. Meja, 200 m, 21.-24.8.1991, leg. A. Riedel (CBM); Irian Jaya, Fakfak-Pr. 20 km w. Timika, 30 m, 8.-11.1.1996, leg. A. Riedel (CBM); West Papua, Nabire nach Mapia km 117, Unipo, 24.7.1996, leg. Schüle/Stüben (CBM).

**Collecting circumstances.** Specimens collected by A. Riedel usually were sampled by sieving litter on and under logs in rain forest at low altitudes.

**Relationships.** With respect to shape of female terminal abdominal sternite, this species probably represents the adelphotaxon of both, *M. rectimargo*, spec. nov. and *M. atrata*, spec. nov.

## *Minuthodes rectimargo*, spec. nov. Figs 2, 6, 24, 40, 41

Examined types. Holotype: ♂, Irian Jaya, Vogelkop, Testega, 1100-1300 m, 30.3.-12.4.1993, leg. A. Riedel (CBM). – Paratypes: 3♀♀, sama data (CBM, MCZ); 1♂,

Irian Jaya, Vogelkop, Testega, 1100-1200 m, 11.4. 1993, leg. A. Riedel (CBM); 1♀, Irian Jaya, Vogelkop, Meydougda, 1200-1400 m, 5.4.1993, leg. A. Riedel (CBM); 2♂♂, Irian Jaya, Manokwari-Pr., Membey, 800-1200 m, 31.8.1991, leg. A. Riedel (CBM); 1♀, Irian Jaya, Manokwari-Pr., Mokwam, Kwau, 1300-1650 m, 17.4.1993, leg. A. Riedel (CBM); 1♂, 4♀♀, Irian Jaya, Panai-Pr., Nabire, Pusppensaat km 54, 500-700 m, 13.-16.8.1991, leg. A. Riedel (CBM, QMB); 2♂♂, Papua NG, Morobe-Pr., Aseki, 1000-1300 m, 13.10.1992, leg. A. Riedel (CBM).

**Diagnosis.** Medium sized, usually quadrimaculate species devoid of a deep excision at apical rim of female terminal abdominal sternum; further distinguished from *M. sexualis* Darlington by slightly wider pronotum bearing less advanced anterior angles, always longer basal elytral spot but shorter and apically wider posterior spot, and by aedeagus bearing a longer apex; from *M. atrata*, spec. nov. by slightly larger size and longer aedeagus bearing a much longer apex.

### Description

Measurements. Length: 4.5-5.0 mm; width: 2.1-2.3 mm. Ratios. Width/length of prothorax: 1.99-2.07; width base/apex of prothorax: 1.02-1.07; length/width of elytra: 1.24-1.32; width of elytra/width of prothorax: 1.38-1.43.

Colour (Figs 40, 41). Shining black, elytra usually spotted, very rarely immaculate, in western part of New Guinea usually quadrimaculate, but a population from Aseki in Papua New Guinea bimaculate with only the remarkably elongate anterior spot present. Anterior spot usually reddish, in

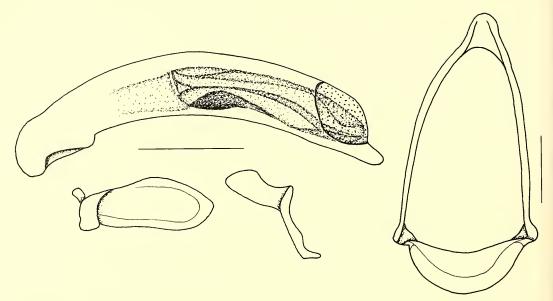


Fig. 2. Minuthodes rectimargo, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

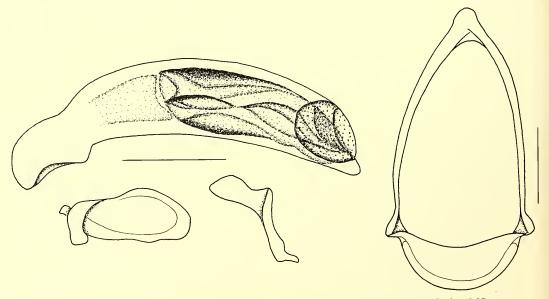
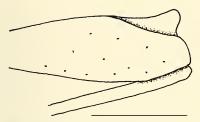


Fig. 3. Minuthodes atrata, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

quadrimaculate specimens fairly to markedly elongate, gently triangular but posteriorly usually not excised, posterior spot when present more yellow, shorter than in *M. sexualis* and apically more or less extended to adjacent intervals. 2<sup>nd</sup>-4<sup>th</sup> antennomeres in parts reddish, basal and apical antennomeres dark.

Head. Very similar to that of M. sexualis. Frons

sparsely punctate and with some longitudinal sulci near eye. Eyes large, markedly protruding, though head distinctly narrower than prothorax. Antenna short, barely attaining basal angle of pronotum, median antennomeres but slightly longer than wide, densely pilose from apex of 4th antennomere, basal antennomeres sparsely setose. Microreticulation absent from frons and clypeus, present and isodia-



**Fig. 4.** *Minuthodes sexualis* Darlington. Apex of left female metafemur. Scale: 0.5 mm.

metric on labrum. Surface highly glossy, impilose.

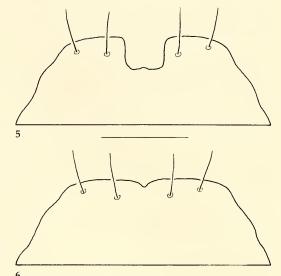
Pronotum. Very wide, somewhat heart-shaped. Base slightly wider than apex, apical angles rounded off, little produced. Sides almost evenly rounded, widest in anterior third, at anterior lateral seta. At this position margins with a very obtuse angle. Near basal angle with a short but distinct sinuosity. Basal angles rectangular, laterally even faintly projecting. Base laterally straight, in middle gently pedunculate. Base bordered throughout, apex in middle unbordered. Disk in middle somewhat raised. Median line distinct, in middle deeply impressed. Basal grooves fairly deep, oblique, prebasal transverse sulcus distinct. In middle between median line and lateral margin with a large, oblong, moderately deep groove. Anterior marginal seta situated slightly in front of anterior third, at widest diameter of pronotum, posterior marginal seta situated at basal angle. Microreticulation absent, punctuation irregular, fine and sparse on disk, slightly denser laterally and apically. Surface glossy, impilose.

Elytra. Short and wide, widest behind middle, depressed. Humeri evenly rounded, sides gently convex, apex oblique, moderately sinuate, sutural angles rounded off, elytra slightly dehiscent at suture. Marginal channel slightly widened at anterior third. Striae well developed, punctate, intervals slightly convex. Microreticulation absent, intervals with one irregular row of coarse punctures, extremely sparsely pilose, pilosity declined. Three discal pores situated at position of 3<sup>rd</sup> stria, though pores difficult to detect within the coarse punctuation. Marginal setae very elongate. Lateral margin not serrate, impilose. Surface highly glossy. Posterior wings fully developed.

Lower surface. Very sparsely punctate and shortly pilose. Metepisternum c. twice as long as wide at apex. Terminal abdominal sternum quadrisetose in both sexes.

Legs (see fig. 4). Three basal tarsomeres of male protarsus slightly widened and asymetrically pilose. Female metafemur with a tooth or elongate ridge on upper surface that ends slightly in front of apex.

Male genitalia (Fig. 2). Rather small in com-



**Figs 5, 6.** Female terminal abdominal sternite. **5.** *M. sexualis* Darlington. **6.** *M. rectimargo*, spec. nov. Scales: 0.5 mm.

parison to body size. Genital ring of moderate size, almost regularly triangular, with narrow symmetric apex and short basis. Aedeagus fairly elongate, lower surface evenly concave, apex short, but longer than in related species, obtuse. Orificium moderately large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts but with a triangular, finely denticulate plate within orificium. Both parameres rather elongate, left one much larger than right one

Female genitalia (Figs 6, 24). Terminal abdominal sternite only with a short, inconspicuous incision. Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 short, slightly curved, with rather short apex; with two elongate ventro-lateral ensiform setae, one elongate dorso-median ensiform seta, and a groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Rather little variation noted in size and proportions. Elytral colour pattern, however varies from uniformly black to bimaculate and quadrimaculate which is most common. Usually the anterior spot is somewhat elongate but oval-shaped, but in the two bimaculate specimens from PNG this spot is very elongate and covers almost the whole anterior half of the elytra. These specimens may well represent a separate taxon, but for any decision additional specimens, in particular males, are required.

**Distribution.** Central and western Irian Jaya, a single record from eastern central Papua New Guinea, which population actually may represent another taxon (see under variation).

Collecting circumstances. All specimens sieved from litter on logs in rain forest at medium altitude.

**Etymology.** The name refers to the absence of a deep incision at the female terminal abdominal sternite.

**Relationships.** With respect to shape of female terminal abdominal sternite more closely related to *M. atrata*, spec. nov. than to *M. sexualis* Darlington and perhaps the adelphotaxon of the former.

## *Minuthodes atrata*, spec. nov. Figs 3, 25, 42

Examined types. Holotype: &, Oro Bay, Papua N.G. Dec'43-Jan'44 Darlington / M.C.Z. Paratype 31404 / Paratype Minuthodes sexualis Darl. (MCZ). – Paratypes: &&&, same data / M.C.Z. Paratype 31404 / Paratype Minuthodes sexualis Darl. (MCZ, CBM); 1\$, Dobodura, Papua N.G. Mar-July, 1944 Darlington / M.C.Z. Paratype 31404 / Paratype Minuthodes sexualis Darl. (MCZ); 1\$, NEW GUINEA: PAPUA; Kokoda-Pitoki, 450 m, III-24-1956 / J. L. Gressitt Collector / M.C.Z. Paratype 31404 / Paratype Minuthodes sexualis Darl. (MCZ).

**Diagnosis.** Small, uniformly black species devoid of a deep excision at apical rim of female terminal abdominal sternum; further distinguished from *M. sexualis* Darlington by slightly wider pronotum bearing less advanced anterior angles, and by shorter and more compact aedeagus; from *M. rectimargo*, spec. nov. by slightly lesser size and by smaller aedeagus bearing a much shorter apex.

#### Description

Measurements. Length: 4.1-4.5 mm; width: 1.85-2.10 mm. Ratios. Width/length of prothorax: 1.99-2.03; width base/apex of prothorax: 1.01-1.07; length/width of elytra: 1.26-1.31; width of elytra/width of prothorax: 1.38-1.42.

Colour (Fig. 42). Unicolourous black. 2<sup>nd</sup>-4<sup>th</sup> antennomeres in parts reddish, basal and apical antennomeres dark.

Head. Very similar to that of *M. sexualis*. Frons sparsely punctate and with some longitudinal sulci near eye. Eyes large, markedly protruding, though head distinctly narrower than prothorax. Antenna short, barely attaining basal angle of pronotum, median antennomeres but slightly longer than wide, densely pilose from apex of 4<sup>th</sup> antennomere, basal antennomeres sparsely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Surface highly glossy, impilose.

Pronotum. Very wide, somewhat heart-shaped. Base slightly wider than apex, apical angles rounded off, little produced. Sides almost evenly rounded, widest in anterior third, at anterior lateral seta. At this position margins with a very obtuse angle. Near basal angle with a short but distinct sinuosity. Basal angles rectangular, laterally even faintly projecting. Base laterally straight, in middle gently pedunculate. Base bordered throughout, apex in middle unbordered. Disk in middle somewhat raised. Median line distinct, in middle deeply impressed. Basal grooves fairly deep, oblique, prebasal transverse sulcus distinct. In middle between median line and lateral margin with a large, oblong, moderately deep groove. Anterior marginal seta situated slightly in front of anterior third, at widest diameter of pronotum, posterior marginal seta situated at basal angle. Microreticulation absent, punctuation irregular, fine and sparse on disk, slightly denser laterally and apically. Surface glossy, impilose.

Elytra. Short and wide, widest behind middle, depressed. Humeri evenly rounded, sides gently convex, apex oblique, moderately sinuate, sutural angles rounded off, elytra slightly dehiscent at suture. Marginal channel slightly widened at anterior third. Striae well developed, punctate, intervals slightly convex. Microreticulation absent, intervals with one irregular row of coarse punctures, extremely sparsely pilose, pilosity declined. Three discal pores situated at position of 3<sup>rd</sup> stria, though pores difficult to detect within the coarse punctuation. Marginal setae very elongate. Lateral margin not serrate, impilose. Surface highly glossy. Posterior wings fully developed.

Lower surface. Very sparsely punctate and shortly pilose. Metepisternum c. twice as long as wide at apex. Terminal abdominal sternum quadrisetose in both sexes.

Legs (see fig. 4). Three basal tarsomeres of male protarsus slightly widened and asymetrically pilose. Female metafemur with a tooth or elongate ridge on upper surface that ends slightly in front of apex.

Male genitalia (Fig. 3). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular, with narrow symmetric apex and short basis. Aedeagus short and compact, lower surface evenly concave, apex very short, obtuse. Orificium moderately large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts but with a triangular, finely denticulate plate within orificium. Both parameres rather elongate, left one much larger than right one.

Female genitalia (Fig. 25). Terminal abdominal sternite only with a short, inconspicuous incision. Stylomeres very small. Stylomere 1 asetose at apical

rim, stylomere 2 moderately elongate, slightly curved, with rather moderately elongate apex; with two moderately elongate ventro-lateral ensiform setae, one elongate dorso-median ensiform seta, and a groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Little variation noted.

**Distribution.** So far only recorded from a restricted area in north-eastern Papua Peninsula between Oro Bay and Kokoda.

**Collecting circumstances.** Not recorded, probably a lowland form.

**Etymology.** The name refers to the uniformly dark colouration.

**Relationships.** See under *M. rectimargo*, spec. nov.

## Genus Cheilagona, gen. nov.

Diagnosis. Genus of Lebiinae, characterized by the following character states: rather convex body; comparatively narrow, convex, and narrow and not cordiform pronotum; convex, ovate elytra; presence of rather elongate, quite erect pilosity on head and pronotum, and of short and depressed pilosity on elytra; absence of a fringe of elongate setae on the margins of pronotum and elytra; impilose upper surface of tibia; quadrisetose male and female terminal abdominal sternites; absence of a notch near apex of middle tibia in males; denticulate tarsi; widened and squamose 1st-3rd protarsomeres in males; absence of elytral pattern or presence of a circular or rather x-shaped, more or less dismembered, common light spot; large male genitalia; remarkably asymmetric genital ring; large, elongate adeagus commonly with upturned, hook-shaped apex and with denticulate, strongly sclerotized parts within the internal sac; very small female stylomeres bearing two stout ventro-lateral and one elongate dorso-median ensiform setae but no nematiform seta.

**Type species.** Agonochila gressitti Darlington, 1968, by present designation.

Distribution. New Guinea, north-eastern Australia.

**Relationships.** This genus occupies a rather isolated position within the *Agonocheila*-complex. According to present knowledge of the male genitalia of *Agonocheila* s. str., *Cheilagona* is not too closely related to the latter.

**Etymology.** The name is an anagram of *Agonocheila*.

## Key to the New Guinean species of the genus *Cheilagona*, gen. nov.

**Note.** This key includes only those species that are known to occur in New Guinea. A few species occur in Australia, e.g. *Agonocheila ovalis* Sloane, *A. stictica* Blackburn, and perhaps additional described and undescribed ones.

- 1. Elytra without any definite colour pattern .....2.
- Elytra with distinct light colour pattern ....... 3.
- 2. Whole body uniformly reddish (Fig. 48); elytra longer, ratio l/w>1.35; intervals more depressed, punctuation coarser and denser, intervals between punctures clearly smaller than diameter of punctures, no microreticulation visible between punctures, therefore elytra glossier; aedeagus very large, with hook-shaped apex, internal sac with one elongate and one short, markedly denticulate sclerotized plate (Fig. 9). Eastern Papua New Guinea... rufa (Darlington)

- Elytra with a large, very variegated, x-shaped spot in middle that can be more or less dissected into single spots or into two remarkably serrate transverse bands, but margins always very irregular (Fig. 47); aedeagus not with hook-shaped apex, internal sac with one narrow sclerotized rod at bottom, a short spine in middle and a short, strongly denticulate plate at roof (Fig. 8). Whole New Guinea....... variabilis (Darlington)
- 4. Striation of elytra distinct, intervals distinctly convex; punctuation coarser (Fig. 45); range montane, collected so far above 550 m; aedeagus with hook-shaped apex, internal sac with two elongate, denticulate, sclerotized plates and a short one between these at bottom (Fig. 7). Whole New Guinea ........ gressitti gressitti (Darlington)

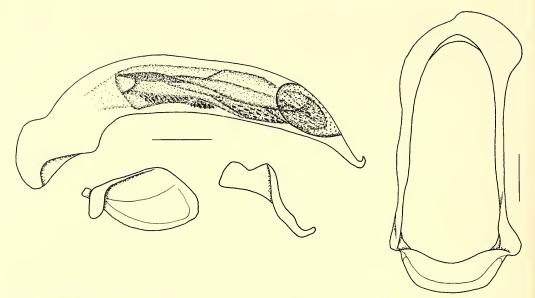


Fig. 7. Cheilagona gressitti gressitti (Darlington). Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

#### Cheilagona gressitti (Darlington) (comb. nov.)

This species apparently occurs in two subspecies that are distinguished by the surface structure of their elytra. Apparently the nominate subspecies is montane, whereas the single available specimen of the new subspecies has been captured in lowland.

**Relationships.** With respect to shape of aedeagus, more closely related to *C. rufa* (Darlington) than to *C. variabilis* (Darlington).

## Cheilagona gressitti gressitti (Darlington) Figs 7, 45

Agonochila gressitti Darlington, 1968: 120; Lorenz 1998: 434.

Examined types. Holotype: ♂, NEW GUINEA. NE. Swart Val: Karubaka 1500 m, XI-20-1958 / J. L. Gressitt Collector / Holotype *Agonochila vulnerata* Darl. / *Agonocheila gressitti* Darlington HOLOTYPE (BMH). / Paratypes: 1♂, 1♀, same data (BMH).

**Diagnosis.** Distinguished from *C. gressitti planata*, subspec. nov. by distinct striation of elytra and convex intervals; and from the single patterned species *C. variabilis* (Darlington) by circular to reniform, but never variegate elytral spot.

#### Supplementary description

Measurements. Length: 4.1-4.7 mm; width: 2.05-2.40 mm. Ratios. Width/length of prothorax: 1.54-1.63; width base/apex of prothorax: 1.36-1.42; length/width of elytra: 1.30-1.34; width of elytra/width of prothorax: 1.61-1.69.

Colour (Fig. 45). Upper and lower surfaces piceous to almost black, prothorax in some specimens slightly lighter than elytra. Elytra with light reddish discal spot of different size that may be even reduced to a reniform spot in apical half, though it is never variegate. Margins of elytra reddish, clypeus reddish, labrum, mouth parts, antennae, and legs yellow.

Male genitalia (Fig. 7). Rather large in comparison to body size. Genital ring large, stout, rather parallel, with wide, markedly asymmetric apex and short basis. Aedeagus elongate, lower surface gently concave, apex fairly elongate, markedly upturned and spoon-shaped. Orificium moderately large, almost completely situated on left side. Internal sac with two elongate, coarsely denticulate, sclerotized plates and a short one between them at bottom. Orificium with a triangular, finely denticulate plate. Both parameres short and compact, left one much larger than right one.

Female genitalia. Stylomeres similar to those of C. variabilis Darlington.

Variation. Little variation noted, except for the elytral spot that may be reduced to a reniform spot in apical half.

Distribution. Whole New Guinea.

Collecting circumstances. Most specimens probably captured by sieving moss and litter from logs in upland rain forest.

New records. Irian Jaya, Panai-Prov. Epomani, km 145, 550-750 m, 15.-16.1.1996, leg. A. Riedel (CBM); Irian Jaya, Jayawijaya-Pr., Wamena, Angguruk-Tangeam, 1500-1800 m, 28.-29.9.1991, leg. A. Riedel (CBM); Irian Jaya, Jayawijaya-Pr., Angguruk, 1200-1500 m, 23.9.1992, leg. A. Riedel (CBM); Irian Jaya, Jayawijaya-Pr., Emdoman, 800-1200 m, 14.-15.9.1992, leg. A. Riedel (CBM); Irian Jaya, Vogelkop, Meydougda, 1200-1400 m, 5.4.1993, leg. A. Riedel (CBM).

## Cheilagona gressitti planata, subspec. nov. Fig. 46

Examined types. Holotype: Q, Irian Jaya, Jayawijaya-Pr., Samboca, Upper Kolff R., 200 m, 10.-14.X.1996, leg. A. Riedel (CBM).

Diagnosis. Distinguished from nominate subspecies by absence of any striation on elytra and absolutely depressed intervals; and from the single patterned species C. variabilis (Darlington) by circular, not variegate elytral spot.

### Description

Measurements. Length: 4.1 mm; width: 2.05 mm. Ratios. Width/length of prothorax: 1.58; width base/apex of prothorax: 1.38; length/width of elytra: 1.31; width of elytra/width of prothorax: 1.67.

Colour (Fig. 46). Upper and lower surfaces piceous. Elytra with large, yellow, not variegate discal spot. Margins of elytra and pronotum reddish, clypeus reddish, labrum, mouth parts, antennae, and legs yellow.

Head. As in nominate subspecies.

Pronotum. As in nominate subspecies.

Elytra. Shape as in nominate subspecies, but virtually no traces of striae visible, intervals absolutely depressed; punctuation less coarse and less distinct.

Lower surface. As in nominate subspecies.

Legs. As in nominate subspecies.

Male genitalia. Unknown.

Female genitalia. As in nominate subspecies.

Variation. Unknown.

Distribution. Central Irian Jaya, so far collected in lowland. Known only from type locality.

Collecting circumstances. Holotype probably captured by sieving moss and litter from logs in lowland rain forest.

Etymology. The name refers to the occurrence of this subspecies in lowland, in contrast to the nominate subspecies.

## Cheilagona variabilis (Darlington) (comb. nov.) Figs 8, 26, 47

Agonochila variabilis Darlington, 1968: 120; Lorenz 1998:

Examined types. Holotype: ♂, NEW GUINEA (NETH.) WISSELMEEREN: 1530 M. URUPURA, KAMO V. AUG. 11, 1955 / J. L. Gressitt Collector / Holotype Agonochila variabilis Darl. (BMH). – Paratypes: 2♀♀, NEW GUINEA: (NW) Wisselmeeren, Enarotadi, 1850 m. 2.-3.VIII.1962, and 1800m, 24.VIII.1962 / J. Sedlacek Collector (BMH).

Diagnosis. Distinguished from both subspecies of the single patterned species C. gressitti (Darlington) by somewhat cruciform, highly variegate elytral spot that always bears some dark spots within.

#### Supplementary description

Measurements. Length: 4.0-4.7 mm; width: 1.9-2.4 mm. Ratios. Width/length of prothorax: 1.57-1.64; width base/apex of prothorax: 1.29-1.34; length/ width of elytra: 1.32-1.35; width of elytra/width of prothorax: 1.66-1.75.

Colour (Fig. 47). Upper and lower surfaces piceous to almost black, prothorax in some specimens slightly lighter than elytra. Elytra with light reddish discal spot of different size, but which is always somewhat cruciform and variegate, bearing some dark spots within and very serrate margins. Margins of elytra reddish, clypeus reddish, labrum, mouth parts, antennae, and legs yellow.

Male genitalia (Fig. 8). Rather large in comparison to body size. Genital ring large, stout, rather parallel, with wide, markedly asymmetric apex and short basis. Aedeagus elongate, lower surface barely concave, apex fairly elongate, not upturned but somewhat spoon-shaped. Orificium moderately large, almost completely situated on left side. Internal sac with a narrow, twisted, scleriotized rod at bottom, a sclerotized spine in middle, and a short, coarsely dentate plate at roof. Orificium with a triangular, finely denticulate plate. Both parameres rather short and compact, left one much larger than right one.

Female genitalia (Fig. 26). Stylomeres very small.

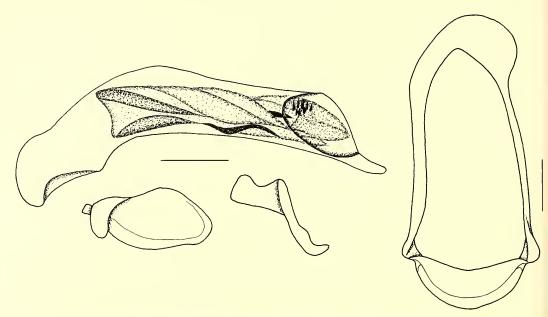


Fig. 8. Cheilagona variabilis (Darlington). Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate, rather acute apex; with two stout ventrolateral ensiform setae, one elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Apart from some variation in size, some variation of elytral pattern noted, as the elytral spot may be more or less dismembered.

#### Distribution. Whole New Guinea.

Collecting circumstances. Most specimens probably captured by sieving moss and litter from logs in upland rain forest.

New records. N. Guinea: NE Kaindi-Nami, 1700 m, 22.8.68 / J. Sedlacek Collector / Agonochila variabilis Darlington, Det. G. E. Ball 1989 (BMH); New Guinea Wau, 1750 m, 13.X.1965 / J. Sedlacek Collector (BMH); N. Guinea: NE Wau, Morobe-Distr. Mt. Missim, 1800 m, 22.IV.1966 / Gressitt, Wilkes Malaise Trap (BMH); N. Guinea: NE Bulolo R, 130 m, 17.8.69 / A. B. Micz Collector (BMH); NEW GUINEA: (NE) Karimui, South of Goroka, 1000 m, 7.6.1961 / J. L. & M. Gressitt Collectors (BMH); Papua NG, Morobe-Pr. Saureri, 10 km s. Garaina, 1550-1700 m, 27.3.1995, A. Riedel (CBM); Papua NG, Morobe-Pr. Aseki, Oiwa, 1600-1700 m and 1700-1800 m, 10.-11.4.1998 and 11.-12.4.1998, A. Riedel (CBM); PNG, Morobe Pr. Wau, Mt. Kaindi, 1550 m, 7.10.1992, leg. A. Riedel (CBM); Papua NG, Morobe-Pr. Aseki, 1000-1300 m, 13.10.1992, leg. A. Riedel (CBM); Papua

NG, Morobe-Pr. Aiewa nr. Podu, s. Aseki, 1500-1700 m, 14.4.1998, leg. A. Riedel (CBM); Papua Nlle. Guinée W. G. Ullrich / IV 79 PNG/WHProv. Bayer/Rokina (CBM); Irian Jaya, Jayawijaya Pt. Angguruk, 1200-1550 m, 23.9. 1992, leg. A. Riedel (CBM); IRIAN JAYA, Jayawijaya-Prov. leg. A. Riedel, 1993 / Bime, 1600-1900 m, 11.IX. (CBM); IRIAN JAYA, Jayawijaya-Prov. leg. A. Riedel, 1996 / Bommela, ca. 1700-1950 m, 4.X. (CBM); Irian Jaya, Panai-Pr., Epomani, Ugida, km 179, 1350-1400 m, 19.-20.1.1996, leg. A. Riedel (CBM); Irian Jaya, Manokwari Pr., Anggi, Gn. Disbehey, 2000-2150 m, 29.8.1991, leg. A. Riedel (CBM); Irian Jaya, Manokwari Pr., Anggi, Gn. Kobrey, 2000-2300 m, 28.8.1991, leg. A. Riedel (CBM).

**Relationships.** With respect to shape of aedeagus, less closely related to both, *C. gressitti* (Darlington) and *C. rufa* (Darlington).

## Cheilagona rufa (Darlington) (comb. nov.) Figs 9, 48

Agonochila rufa Darlington, 1968: 120; Lorenz 1998: 434.

Examined types. Holotype: \$\,\text{PUM}\) Bisianumu, E. of Port Moresby 500 m. Sept. 22. 1955 / J. L. Gressitt Collector / rufa / Holotype Agonochila rufa Darl. (BMH). – Paratypes: \$1\,\text{d}\), NEW GUINEA: PAPUA, Keparra-Sangi, nr. Kokoda, 500 m. III-26-1956 / Sago Palm / J. L. Gressitt Collector / Paratype Agonochila rufa Darl. (BMH).

**Diagnosis.** Easily recognized from the patterned species by unicolourous red surface. Distinguished

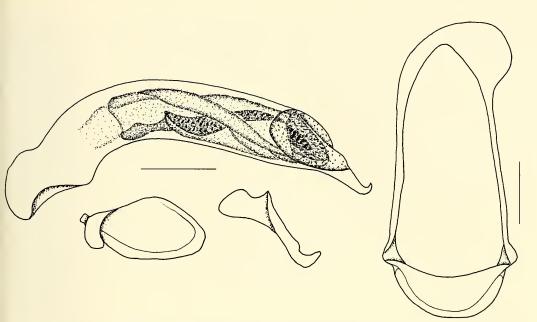


Fig. 9. Cheilagona rufa (Darlington). Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.5 mm.

from *C. nigropicea*, spec. nov. by lighter colour, narrower prothorax with narrower base, longer elytra with more depressed intervals, absence of microreticulation on elytra, and coarser and denser punctuation.

#### Supplementary description

Measurements. Length: 4.0-4.8 mm; width: 2.05-2.40 mm. Ratios. Width/length of prothorax: 1.54-1.60; width base/apex of prothorax: 1.37-1.40; length/width of elytra: 1.36-1.40; width of elytra/width of prothorax: 1.63-1.70.

Colour (Fig. 48). Upper and lower surfaces uniformly reddish, antennae, mouth parts, and legs yellow.

Male genitalia (Fig. 9). Very large in comparison to body size. Genital ring large, elongate, rather parallel, with wide, remarkedly asymmetric apex and short basis. Aedeagus elongate, lower surface gently bisinuate, apex fairly elongate, markedly upturned and spoon-shaped. Orificium moderately large, almost completely situated on left side. Internal sac with one elongate and one short, coarsely denticulate, sclerotized plate. Orificium with a triangular, finely denticulate plate. Both parameres short and compact, left one much larger than right one.

Female genitalia. Similar to those of *C. nigropicea*, spec. nov.

Variation. Little variation noted, apart from some differences of body size.

**Distribution.** So far recorded only from eastern Papua New Guinea.

## Collecting circumstances. Unknown.

New records. 13, NG. Bulolo R 700 m, 20.8.1970 / J. Sedlacek Collector (BMH); 13, Managalase Plateau, Northern District, Papua, Nov. 1972, R. Hornabrook (CBM).

**Relationships.** Probably nearest related to the likewise unicolourous *C. nigropicea*, spec. nov.

## Cheilagona nigropicea, spec. nov. Figs 27, 49

**Types.** Holotype:  $\mathfrak{P}$ , Irian Jaya, Panai-Pr. Epomnai, Ugida, km 179, 1350-1400 m, 19.-20.1.1996, leg. A. Riedel (CBM). – Paratype:  $\mathfrak{1}\mathfrak{P}$ , same data (CBM).

**Diagnosis.** Easily recognized from the patterned species by unicolourous piceous surface. Distinguished from *C. rufa* (Darlington) by darker colour, wider prothorax with wider base, shorter elytra with more convex intervals, presence of traces of microreticulation on elytra, and less coarse and less dense punctuation.

#### Description

Measurements. Length: 4.4-4.6 mm; width: 2.2-2.3 mm. Ratios. Width/length of prothorax: 1.66-1.67; width base/apex of prothorax: 1.44-1.48; length/

width of elytra: 1.31-1.32; width of elytra/width of prothorax: 1.65.

Colour (Fig. 49). Upper and lower surfaces uniformly piceous, only margins of pronotum and elytra reddish. Labrum light reddish, antennae, mouth parts, and legs yellow.

Head. Moderately wide, narrower than pronotum. Frons in middle with a deep, punctiform groove. No longitudinal furrows medially of eyes. Eyes large, markedly protruding. Clypeo-frontal suture deep. Clypeus in middle depressed, anterior margin straight. Labrum elongate, apex convex, 6-setose, lateral margins with additional hairs. Mandible with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, labial palpus apparently impilose, maxillary palpus with sparse and very fine pilosity. Mentum with sharp, unidentate tooth. Antenna short, surpassing basal angle of pronotum by about two antennomeres, median antennomeres slightly longer than wide, densely pilose from apex of 4th antennomere, basal antennomeres sparsely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Frons and clypeus irregularly punctate and with rather elongate, more or less erect pilosity, surface highly glossy.

Pronotum. Moderately wide, not cordiform, dorsally rather convex. Base much wider than apex, apex almost straight, anterior angles not produced, evenly rounded. Sides almost evenly rounded, widest behind middle, at position of anterior lateral seta. At this position margin with a very obtuse angle. Margin not sinuate in front of basal angles which are angulate but not rectangular. Posterior marginal seta situated at basal angle. Base gently convex though not pedunculate. Both, base and apex bordered throughout. Lateral channel narrow, distinctly separated from the convex disk. Median line gently impressed. Basal grooves fairly deep, oblique, prebasal transverse sulcus indistinct. Microreticulation absent, punctuation irregular, fine and rather sparse. Surface glossy, with moderately dense, rather elongate, erect, yellow pilosity, margins impilose.

Elytra. Rather short and wide, oviform, widest behind middle, dorsally very convex. Humeri rounded, sides evenly convex, apex oblique, gently sinuate, sutural angles rounded off, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, punctate, intervals distinctly convex. Superficial traces of about isodiametric microreticulation present, whole surface densely punctate and pilose. Pilosity dense, yellow, rather short, somewhat declined. Three discal pores situated in 3<sup>rd</sup> interval, the basal one near 3<sup>rd</sup> stria,

both posterior ones near 2<sup>nd</sup> stria, though pores and the very short setae hardly discernible within the dense punctuation and pilosity. Marginal setae of moderate size. Lateral margin impilose. Surface glossy. Posterior wings fully developed.

Lower surface. Episterna and epimera of proand mesothorx impunctate and impilose, rest of lower surface rather sparsely punctate and pilose, pilosity more or less erect. Metepisternum comparatively short, <1.5× as long as wide at apex. Terminal abdominal sternum of female 4-setose.

Legs. Of moderate size, pilose, though upper surfaces of tibiae not plainly pilose. Claws large, with four medium sized denticles. Structure of male protarsus unknown.

Male genitalia. Unknown.

Female genitalia (Fig. 27). Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate apex; with two stout ventro-lateral ensiform setae, one very elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Little variation recognized.

**Distribution.** Western Irian Jaya. Known only from type locality.

**Collecting circumstances.** Probably sieved from fallen logs in rain forest.

Etymology. The name refers to the dark colouration.

**Relationships.** Probably nearest related to the likewise unicolourous *C. rufa* (Darlington).

## Cheilagona stictica (Blackburn) (comb. nov.)

Agonocheila stictica Blackburn, 1895: 201; Moore et al. 1987: 291.

**Note.** This species from northern Queensland clearly belongs in *Cheilagona*. The identity of the newly recorded specimens was confirmed by comparison with the types in BMNH.

New records. Australien Qld. Atherton, 2.1.1982, M. Baehr (CBM).

#### Cheilagona ovalis (Sloane) (comb. nov.)

Agonochila ovalis Sloane, 1923: 39; Moore et al. 1987: 291.

**Note.** This species from northern Queensland is rather similar to *C. variabilis* (Darlington) from New Guinea and clearly belongs in *Cheilagona*. The iden-

tity of the newly recorded specimen of this species was confirmed by comparison with the type in BMNH.

**New records.** Australien Qld. Atherton, 2.1.1982, M. Baehr (CBM).

#### Genus Pseudoplatia, gen. nov.

Diagnosis. Genus of Lebiinae, mainly characterized by the following character states: rather depressed body; more or less wide, depressed, and mostly distinctly cordiform pronotum; depressed, moderately ovate, but not quadrate elytra; presence of rather elongate and partly erect pilosity on head, pronotum, and elytra; presence of a dense fringe of elongate setae on the margins of pronotum and elytra; plainly pilose upper surface of tibia; quadrisetose male and female terminal abdominal sternites; presence of a notch near apex of middle tibia in males; usually much variegated elytral pattern of one, two, or most commonly three transverse rows of light spots, very rarely elytra with a large, irregular, common spot in middle; small aedeagus with elongate apex, without any strongly sclerotized plates or rods, and with a remarkably elongate orificium.

**Type species.** *Minuthodes sedlacekorum* Darlington, by present designation.

Distribution. New Guinea.

**Relationships.** This genus probably takes an intermediate position between *Minuthodes* in its restricted sense and the Australian *Agonocheila*. For more exact definition, however, better knowledge of the systematics of the latter genus would be needed.

**Etymology.** The name refers to the close relationship of this genus to previous *Platia* which is the older, preoccupied name of *Minuthodes*.

## Key to the species of the genus *Pseudoplatia*, gen. nov.

- 1. Elytra without a pattern of many interrupted light longitudinal lines (Figs 50-52).....2.
- Elytra with two irregular transverse fasciae behind middle that may be expanded to the humeri to form a very irregularly margined, anteriomedially deeply incised light spot that may cover almost the whole disk, but has always a

- small, transverse, black patch within in posterior part (Fig. 50); aedeagus with moderately elongate apex (Fig. 10). Papua New Guinea to eastern central Irian Jaya......expansa (Darlington)

- 4. Intervals of elytra distinctly microreticulate, quite dull; pronotum narrower, in middle rather convex, lateral margins narrow, barely explanate, ratio w/l<1.6 (Fig. 53); body size small, length <4.5 mm; aedeagus with comparatively short apex and short orificium (Fig. 12). Eastern central Papua New Guinea.....

.....*minuthoides* (Darlington)

- 5. Striae of elytra deeply punctate, punctures in striae decidedly coarser than punctures on intervals; rather small species, body length < 4.8 mm (Fig. 54); aedeagus with comparatively short apex (Fig. 13). Eastern central Papua New Guinea ......sedlacekorum (Darlington)
- Striae of elytra more feebly punctate, punctures in striae not coarser than punctures on intervals; either larger species, body length >4.8 mm, usually >5 mm, or small species with body length 4.5-4.8 mm, but then punctures on intervals coarse and mostly transversely confluent; aedeagus usually with slightly longer apex (Figs 14-22)

- Smaller species, length < 5.8 mm; microreticulation on intervals absent, surface very glossy ... 8.</li>

- 9. Elytra longer and more parallel, ratio l/w 1.39, and pronotum near base distinctly sinuate (Fig. 60); lower surface of aedeagus near apex slightly bisinuate (Fig. 19). Japen Island, Irian Jaya ... subnitens (Darlington)
- 10. Elytra shorter and laterally more convex, ratio l/w<1.32; pronotum distinctly sinuate near basal angles (Figs 56, 57), not microreticulate; aedeagus with elongate apex, right paramere longer (Figs 15, 16). Western Irian Jaya.......11.
- Elytra longer and laterally less convex, ratio l/w
   1.35; pronotum not sinuate near basal angles (Fig. 58), with traces of microreticulation; apex of aedeagus unknown, right paramere rather short and compact (Fig. 17). Northern Papua New Guinea ......recticollis, spec. nov.

- 13. Pronotum narrower, ratio w/l<1.68; elytra slightly longer, ratio l/w>1.38; microreticulation on elytra barely perceptible, surface glossier (Fig. 62); lower surface of aedeagus near apex slightly bisinuate (Fig. 21). Central Papua New Guinea.....missai, spec. nov.

## Pseudoplatia expansa (Darlington) (comb. nov.) Figs 10, 50

Agouochila expansa Darlington, 1968: 121; Lorenz 1998: 434.

Examined types. Holotype: ♀, NEW GUINEA: NE. Finisterre Range, Saidor: Kiambavi Vill. VIII-1-18-'58/
J. L. Gressitt Collector BISHOP / Holotype *Agonochila expansa* Darl. (BMH).

**Diagnosis.** Distinguished from almost all other species, except for *P. dorsata* (Darlington) by the colour pattern of the elytra that does not consist of many longitudinal spots; from the latter species distinguished by elytra bearing two markedly ser-

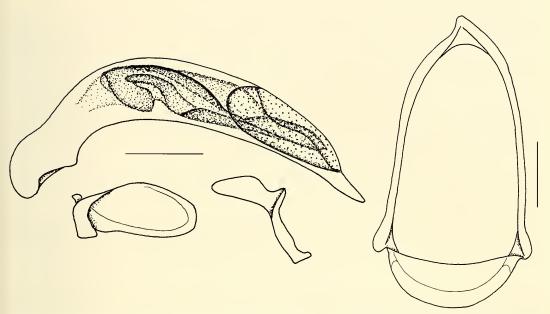


Fig. 10. Pseudoplatia expansa (Darlington). Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

rate, transverse bands that may be confluent to a large light spot, but always bear two dark maculae at suture.

#### Supplementary description

Measurements. Length: 4.7-5.7 mm; width: 2.3-2.7 mm. Ratios. Width/length of prothorax: 1.80-1.88; width base/apex of prothorax: 1.11-1.16; length/width of elytra: 1.30-1.36; width of elytra/width of prothorax: 1.48-1.60.

Colour (Fig. 50). Upper and lower surfaces dark piceous to almost black. Elytra with two markedly serrate, transverse bands in posterior half that may be confluent to a large light spot that covers almost the whole of the elytra, but always bears two dark maculae at suture. Labrum slightly lighter than head, mouth parts and antennae yellow, legs dark, but knees and tarsi reddish.

Male genitalia (Fig. 10). Rather small in comparison to body size. Genital ring of moderate size, rather narrow, fairly symmetric, with narrow symmetric apex and short and wide basis. Aedeagus rather elongate, lower surface gently concave, apex elongate, obtuse. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres elongate, left one much larger than right one.

Female genitalia. Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate, fairly acute apex; with two moderately elongate ventro-lateral ensiform setae, one extremely elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Apart from the light elytral spot that much varies in size and shape, little variation noted.

**Distribution.** Papua New Guinea and eastern Irian Jaya.

New records. 1d, NEW GUINEA: NE. East Highlands, Kainantu, 1500 m, 20.1.1966 / J. & M. Sedlacek M. V. Light trap (BMH); 1d, N. Guinea: NE. Garaina, 800 m, 16.I.1958 / J. & M. Sedlacek Collectors (BMH); 1d, 1q, NEW GUINEA: SE. Woitape, 1550 m, 2-3.XI.65 / J. Sedlacek Collector (BMH); 1d, Papua Nlle. Guinèe, W. G. Ullrich / XI 79 PNG/EHProv. Umg. Kainantu Onerunka (CBM); 1d, IRIAN JAYA, Jayawijaya-Prov. leg. A. Riedel, 1993 / N. Bime, 2000-2070 m, 21.IX (CBM); 1q, rian Jaya, Jayawijaya Pr. Bommela, 1750 m, 30.8.-1.9. 1992, leg. A. Riedel (CBM). 1q, Papua N.G., Morobe Prov., leg. A. Riedel, Aseki, Oiwa, 1600-1700 m, 11.-13. III.1998 (CBM).

**Relationships.** With respect to the colour pattern of the elytra most closely related to *P. dorsata* (Darlington). In spite of the different elytral pattern, both mentioned species belong in the main body of the genus.

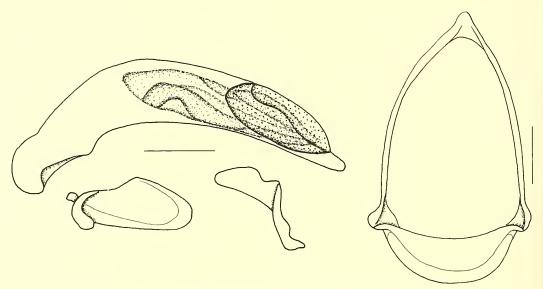


Fig. 11. Pseudoplatia dorsata dorsata (Darlington). Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

#### Pseudoplatia dorsata (Darlington) (comb. nov.)

This species apparently occurs in two different subspecies.

## Pseudoplatia dorsata dorsata (Darlington) Figs 11, 51

Agonochila dorsata Darlington, 1968: 121; Lorenz 1998: 434.

Examined types. Holotype:  $\delta$ , NEW GUINEA: NE. Kepilam, 2450 m, 21.VI.1963 / J. Sedlacek Collector BISHOP / Holotype *Agonochila dorsata* Darl. (BMH). – Paratypes: 299, same data (BMH).

**Diagnosis.** Distinguished from almost all other species, except for *P. expansa* (Darlington) by colour pattern of the elytra that does not consist of many longitudinal spots; from the latter species distinguished by the more or less extended, but always complete elytral spot that never bears any dark maculae within. Distinguished from *P. dorsata minor*, subspec. nov. by larger size and wider prothorax with less markedly upturned lateral margins.

#### Supplementary description

Measurements. Length: 6.1-6.5 mm; width: 2.9-3.1 mm. Ratios. Width/length of prothorax: 1.80-1.86; width base/apex of prothorax: 1.11-1.14; length/width of elytra: 1.36-1.39; width of elytra/width of prothorax: 1.58-1.63.

Colour (Fig. 51). Upper and lower surfaces dark piceous to almost black. Elytra with a rather large discal spot that may more or less extended, but never bears any dark maculae within. Labrum slightly lighter than head, mouth parts and antennae yellow, legs dark, but knees and tarsi reddish.

Male genitalia (Fig. 11). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and short and wide basis. Aedeagus moderately elongate, lower surface gently concave, apex comparatively short, obtuse. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and likewise without a denticulate plate within orificium. Both parameres rather elongate, left one much larger than right one.

Female genitalia. Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate, fairly acute apex; with two moderately elongate ventro-lateral ensiform setae, one extremely elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Apart from the light elytral spot that much varies in size and shape, little variation noted.

**Distribution.** Papua New Guinea and eastern Irian Jaya. All records so far from quite high altitude.

New records. 1♀, NEW GUINEA: Kainantu, 2100-2240 m, 8.I.1965 / J. &. M. Sedlacek Collectors BISHOP MUSEUM / Agonochila dorsata Darlington det. G. E. Ball, 1989 (BMNH); 1♂, Irian Jaya, Jayawijaya Pr. Bommela, 1750 m, 30.8.-1.9.1992, leg. A. Riedel (CBM).

**Relationships.** With respect to colour pattern of the elytra, most closely related to *P. expansa* (Darlington). In spite of the different elytral pattern, both mentioned species belong in the main body of the genus.

## Pseudoplatia dorsata minor, subspec. nov. Fig. 52

**Types.** Holotype: ♀, N. Guinea: NE Garaina, 800 m, 16.I.1968 / J. & M. Sedlacek Collectors BISHOP / *Agonochila dorsata* Darlington Det. G. E. Ball 1989 (BMH).

**Diagnosis.** Distinguished from nominate form by lesser size and narrower prothorax with remarkedly upturned lateral margins.

#### Description

Measurements. Length: 5.4 mm; width: 2.5 mm. Ratios. Width/length of prothorax: 1.75; width base/apex of prothorax: 1.10; length/width of elytra: 1.35; width of elytra/width of prothorax: 1.60.

Colour (Fig. 52). As in nominate subspecies, but elytral spot even smaller and restricted to five inner intervals and apical half of elytra.

Head. As in nominate subspecies.

Prothorax. As in nominate subspecies, but narrower and with slightly narrower base. Lateral margins even more upturned, hence marginal channel deeper.

Elytra. As in nominate subspecies, but slightly shorter.

Lower surface. As in nominate subspecies.

Legs. As in nominate subspecies.

Male genitalia. Unknown.

Female genitalia. As in nominate subspecies. Variation. Unknown.

**Distribution.** Eastern central Papua New Guinea, at rather low altitude. Known only from type locality.

#### Collecting circumstances. Unknown.

**Etymology.** The name refers to the lesser size as compared with the nominate subspecies.

**Note.** According to the collecting circumstances of the holotype, this may be the lowland form of *P. dorsata*.

## Pseudoplatia minuthoides (Darlington) (comb. nov.) Figs 12, 28, 53

Agonochila minuthoides Darlington, 1968: 119; Lorenz 1998: 434.

Examined types. Holotype: &, Didiman Ck., Lae, N.G. III-27-55' EO Wilson lowl. rainfor. / M.C.Z. Holotype 31418 / Holotype *Agonochila minuthoides* Darl. (MCZ). – Paratype: 1&, NEW GUINEA (NE) Busu R., E. of Lae 100 m, Sept. 14, 1955 / J. L. Gressitt Collector / Paratype *Agonocheila minuthoides* Darl. (BMH).

Diagnosis. Small, rather convex species with elytral pattern of many longitudinal lines, distinguished from all other species by less protruding eyes, narrower, dorsally more convex pronotum without definitely explanate lateral margins, distinct microreticulation of intervals, and short apex of the aedeagus.

### Supplementary description

Measurements. Length: 3.8-4.5 mm; width: 1.90-2.15 mm. Ratios. Width/length of prothorax: 1.52-1.58; width base/apex of prothorax: 1,21-1.24; length/width of elytra: 1.28-1.31; width of elytra/width of prothorax: 1.63-1.70.

Colour (Fig. 53). Upper and lower surfaces brown to piceous, margins of pronotum and elytra reddish. Elytra with a variegate pattern of numerous light, short longitudinal stripes which form three indistinct, oblique, irregularly v-shaped bands. Labrum reddish, mouth parts, antennae, and legs yellow to light reddish, tibia slightly darker than femora.

Male genitalia (Fig. 12). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and short and wide basis. Aedeagus rather elongate, lower surface gently concave, apex comparatively short, obtuse. Orificium large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres rather elongate, left one much larger than right one.

Female genitalia (Fig. 28). Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate, fairly acute apex; with two moderately elongate ventro-lateral ensiform setae, one extremely elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Due to scarce material, little variation noted.

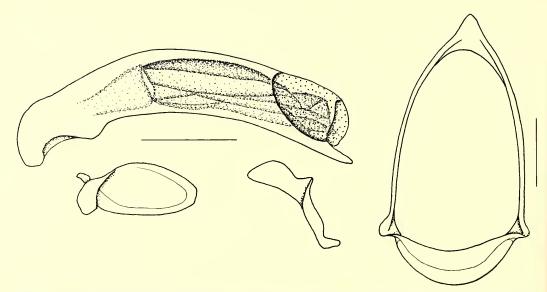


Fig. 12. Pseudoplatia minuthoides (Darlington). Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

Distribution. Central northern Papua New Guin-

New records. 1º, Canopy mission P.N.G. Madang province, Baiteta, FOG T10, 24.III.1994, Leg. Olivier Missa (CBM); 1º, PAPUA NEW GUINEA, Madang Province, 16 km WNW of Sapi Forest Reserve, 160 m, 5°10'S, 145°26'E, 8 Apr. 1989, Stop #89-67B / D. H. Kavanaugh, G. E. Ball & N. D. Penny colls. (CAS).

**Relationships.** In spite of its variegate elytral pattern, this is probably the adelphotaxon of all other species and altogether the most basic species of the genus.

## Pseudoplatia sedlacekorum (Darlington) (comb. nov.) Figs 13, 54

Minuthodes sedlacekorum Darlington, 1968: 97; Lorenz 1998: 434.

Agonochila duplicata Darlington, 1968: 119; Lorenz 1998: 434 (syn. nov.).

Examined types. Of sedlacekorum: Holotype: &, NEW GUINEA: (NE) Wau, Morobe Distr 1050 m, 14.XI.1961 / J. & M. Sedlacek Collectors / Holotype Minuthodes sedlacekorum Darl. (BMH).

Of duplicata: Holotype: &, N. Guinea Birò 1899 / Sattelberg Huon-Golf. / Holotype Agonochila duplicata Darl. (HNMB).

**Note.** The unique type of *P. duplicata* agrees in all important external and genital characters with the

type of *P. sedlacekorum*, except that it is slightly smaller and has a narrower, laterally slightly less sinuate pronotum.

**Diagnosis.** Small, rather depressed species with elytral pattern of many longitudinal lines, distinguished from all other species except for *P. minuthoides* (Darlington) by considerably larger punctures on elytral striae than on intervals; and from the latter species by more protruding eyes, wider, dorsally more depressed pronotum with definitely explanate lateral margins, and absence of microreticulation on the elytra.

### Supplementary description

Measurements. Length: 4.4-4.8 mm; width: 2.15-2.3 mm. Ratios. Width/length of prothorax: 1.74-1.83; width base/apex of prothorax: 1.19-1.21; length/width of elytra: 1.30-1.35; width of elytra/width of prothorax: 1.51-1.53.

Colour (Fig. 54). Upper surfaces of head and prothorax and lower surface reddish to light brown, surface of elytra more or less dark piceous. Margins of pronotum and elytra indistinctly reddish. Elytra with a variegate pattern of numerous yellow to light reddish, longitudinal stripes which form three indistinct, oblique, irregularly v-shaped bands. Usually a larger part of the elytra is light than dark, in particular in the basal half. Labrum reddish, mouth parts, antennae, and legs yellow to light reddish, tibia slightly darker than femora.

Male genitalia (Fig. 13). Rather small in com-

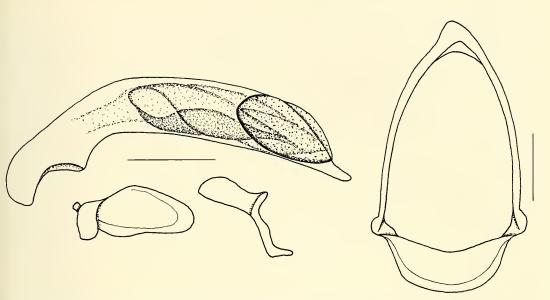


Fig. 13. Pseudoplatia sedlacekorum (Darlington). Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

parison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and short and wide basis. Aedeagus rather elongate, lower surface barely concave, apex comparatively short, obtuse. Orificium large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres elongate, left one much larger than right one.

Female genitalia. Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate, fairly acute apex; with two moderately elongate ventro-lateral ensiform setae, one extremely elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. In the holotype of *Agonocheila duplicata* Darlington the pronotum is slightly less sinuate posteriorly and thus the basal angles are slightly more obtuse.

**Distribution.** Central eastern and northern Papua New Guinea.

**New records.** 1º, same data as holotype of *P. sedlacekorum* (BMH); 1ð, PAPUA NEW GUINEA Morobe Pr. Wau. Wau Ecol. Inst. 12-24 July 1983, S. E. & P. M. Miller. 1200 m. Second. Montane Forest (CAS).

Collecting circumstances. The few specimens collected in montane forests of median altitude.

**Relationships.** Very similar to *P. drumonti*, spec. nov. Both species together may form the adelphotaxon of all other species except for *P. minuthoides* (Darlington).

## Pseudoplatia drumonti, spec. nov. Figs 14, 29, 55

Types. Holotype: ♂, Canopy mission P.N.G. Madang province, Baiteta, FOG T4, 6.IV.1993, Leg. Olivier Missa (IRSNB). – Paratypes: 5♂♂, 4♀♀, same locality and collector: FOG T9, 1.VI.1994; FOG T3, 31.III.1993; FOG M2, 30.III.1993 (CBM, IRSNB).

**Diagnosis.** Distinguished from most species of *Pseudoplatia* by combination of rather small size and wide, depressed pronotum bearing explanate margins; distinguished from most similar *P. sedlacekorum* (Darlington) by punctuation of intervals coarse and about as large as that of striae, margins of pronotum more decidedly sinuate near basal angles, and aedeagus with slightly longer and at tip gently upturned apex.

## Description

Measurements. Length: 4.6-4.8 mm; width: 2.25-2.35 mm. Ratios. Width/length of prothorax: 1.79-1.83; width base/apex of prothorax: 1.16-1.20; length/width of elytra: 1.25-1.30; width of elytra/width of prothorax: 1.42-1.45.

Colour (Fig. 55). Upper and lower surfaces piceous, head usually even slightly darker. Margins

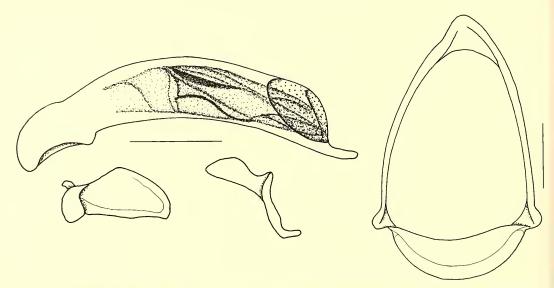


Fig. 14. Pseudoplatia drumonti, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

of pronotum and elytra more or less widely reddish. Elytra with a variegate pattern of numerous yellow to light reddish, longitudinal stripes which form three indistinct, oblique, irregularly v-shaped bands. Usually light and dark colour on elytra is about equally distributed. Labrum reddish, mouth parts, antennae, and legs yellow to light reddish, tibia slightly darker than femora.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior margin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices obtuse, both palpi finely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, barely surpassing basal angle of pronotum, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Frons and clypeus densely, irregularly, and rather coarsely punctate and with rather elongate, more or less erect pilosity, surface glossy.

Pronotum. Wide, faintly cordiform, dorsally depressed. Base much wider than apex, apex concave, anterior angles produced but evenly rounded. Sides anteriorly evenly rounded, widest slightly in front of middle, at position of anterior lateral seta.

At this position margin with a very obtuse angle. Margin faintly sinuate in front of basal angles which are distinct but slightly obtuse and not rectangular. Posterior marginal seta situated at basal angle. Base in middle gently convex though not pedunculate. Both, base and apex bordered throughout. Lateral channel wide, depressed, disk gently raised. Median line well impressed, almost attaining base and apex. Basal grooves fairly deep, oblique, prebasal transverse sulcus shallow. Apical transverse sulcus distinct though interrupted in middle. Microreticulation absent, punctuation dense, somewhat confluent, moderately fine. Surface glossy, with dense, rather elongate, more or less erect, yellow pilosity. Lateral margin with a dense fringe of elongate setae.

Elytra. Short and wide, rather quadrate, little widened behind middle, dorsally depressed. Humeri rounded, sides gently convex, apex oblique, gently sinuate, sutural angles rounded off, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals perceptibly convex. Microreticulation absent, whole surface densely and coarsely punctate, punctures irregularly confluent, about as coarse as punctures of striae. Pilosity dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3rd interval, the basal one near 3rd stria, both posterior ones near 2nd stria, though pores and the short erect setae hardly discernible within the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral margin with a dense fringe of elongate setae. Surface very glossy. Posterior wings fully developed.

Lower surface. Lower surface of head, prosternum, and surfaces of meso- and metathorax and of abdomen densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect. Metepisternum comparatively short, <1.5 × as long as wide at apex. Terminal abdominal sternum in both sexes quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with three minute denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically and densely squamose.

Male genitalia (Fig. 14). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and short and wide basis. Aedeagus rather elongate, lower surface gently concave, apex fairly elongate, slightly curved up, obtuse. Orificium moderately large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres rather elongate, left one much larger than right one.

Female genitalia (Fig. 29). Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate, fairly acute apex; with two moderately elongate ventro-lateral ensiform setae, one extremely elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Very little variation noted.

**Distribution.** Eastern central Papua New Guinea. Known only from type locality.

**Collecting circumstances.** Fogged from trunk or lower canopy of standing trees of the species *Dracontomelon dao* and *Pometia pinnata* in lowland rain forest close to the coast.

**Etymology.** The name honours A. Drumont of IRSNB who kindly made available to me the most interesting Baiteta sample of New Guinean carabids.

**Relationships.** See under *P. sedlacekorum* (Darlington).

## *Pseudoplatia riedeli,* spec. nov. Figs 15, 30, 56

**Types.** Holotype: ♂, Irian Jaya, Vogelkop, Testega,1100-1300 m, 30.3.-12.4.1993, leg. A. Riedel (CBM). – Paratypes: 1♀, same data (CBM); 1♀, Irian Jaya, Vogelkop, Meydougda,1200-1400 m, 5.4.1993, leg. A. Riedel (CBM); 1♀, Irian Jaya, Panai-Pr., Epomani, Ugida, km 179, 1350-1400 m, 19.-20.1.1996, leg. A. Riedel (CBM).

**Diagnosis.** Characterized, at the same time, by moderate size, not microreticulate surface of elytra, spotted elytra, and wide, explanate pronotum with distinctly sinuate lateral margins. Distinguished from most similar *P. georgei*, spec. nov. by less dense punctuation of elytra, and from *P. gerdi*, spec. nov. by much more extended light elytral colouration and straight apex of aedeagus.

#### Description

Measurements. Length: 4.8-5.5 mm; width: 2.35-2.75 mm. Ratios. Width/length of prothorax: 1.85-1.88; width base/apex of prothorax: 1.16-1.20; length/width of elytra: 1.30-1.32; width of elytra/width of prothorax: 1.47-1.54.

Colour (Fig. 56). Upper and lower surfaces piceous to almost black. Pronotum and elytra with very narrow and inconspicuous reddish margin. Elytra with a variegate pattern of numerous yellow to light reddish, longitudinal stripes which form three indistinct, oblique, irregularly v-shaped bands. Distribution of light colour on elytra more extended than dark colour. Labrum reddish, mouth parts, antennae, and legs yellow to light reddish, tibiae slightly darker than femora.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes but the coarse punctuation of frons more or less longitudinally confluent. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior margin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices rather acute, both palpi very sparsely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, barely surpassing basal angle of pronotum, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Clypeus and anterior part of frons densely, irregularly, and coarsely punctate and with rather elongate, more or less erect pilosity, posterior part of head with finer punctures. Surface glossy.

Pronotum. Wide, slightly cordiform, dorsally depressed. Base much wider than apex, apex very gently concave, anterior angles faintly produced but evenly rounded. Sides anteriorly evenly rounded, widest slightly in front of middle, at position of anterior lateral seta. At this position margin with a very obtuse angle. Margin faintly sinuate in front of basal angles which are distinct but slightly obtuse and not rectangular. Posterior marginal seta situ-

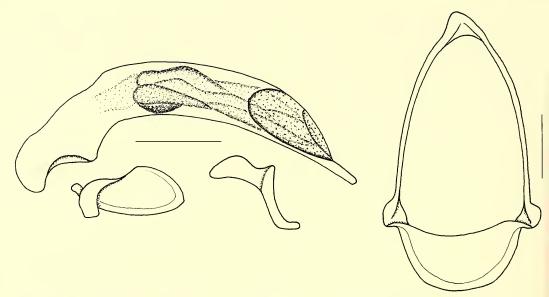


Fig. 15. Pseudoplatia riedeli, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

ated at basal angle. Base in middle gently convex though not pedunculate. Apex in middle not bordered, base bordered throughout. Lateral channel wide, depressed, lateral parts widely explanate, disk gently raised. Median line well impressed, almost attaining base and apex. Basal grooves rather deep, oblique, prebasal transverse sulcus fairly deep. Apical transverse sulcus distinct and barely interrupted in middle. Microreticulation absent, punctuation dense, somewhat confluent, on disk moderately fine, on lateral parts coarse and rugose. Surface glossy, with dense, rather elongate, more or less erect, yellow pilosity. Lateral margin with a dense fringe of elongate setae.

Elytra. Short and wide, rather quadrate, little widened behind middle, dorsally depressed. Humeri rounded, sides gently convex, apex oblique, fairly sinuate, sutural angles rounded off, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals slightly convex. Microreticulation absent, intervals rather densely and coarsely punctate in 2-3 rows, punctures in parts irregularly confluent, about as coarse as punctures of striae. Pilosity dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3<sup>rd</sup> interval, the basal one near 3<sup>rd</sup> stria, both posterior ones near 2<sup>nd</sup> stria, though pores and the short erect setae hardly discernible within the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral margin with a dense fringe of elongate setae. Surface very glossy. Posterior wings fully developed.

Lower surface. Lower surface of head barely pilose, lower surfaces of prosternum, meso- and metathorax and of abdomen densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect. Metepisternum comparatively short, <1.5× as long as wide at apex. Terminal abdominal sternum in both sexes quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with 3-4 minute denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically squamose.

Male genitalia (Fig. 15). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and moderately short and wide basis. Aedeagus elongate, lower surface gently concave, apex elongate, absolutely straight, obtuse. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres rather elongate, left one angulate at apex and much larger than right one.

Female genitalia (Fig. 30). Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate, rather acute apex; with two fairly stout ventro-lateral ensiform setae, one very elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

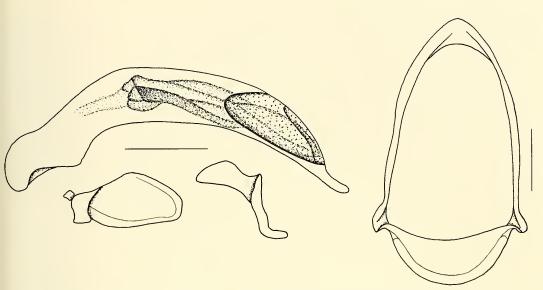


Fig. 16. Pseudoplatia gerdi, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

Variation. Some variation noted in body size and size of the light spots of the elytral colouration.

Distribution. Western Irian Jaya.

**Collecting circumstances.** Probably sieved from logs in rain forest at median altitude.

**Etymology.** The name honours A. Riedel, collector of this and of many other important New Guinean carabid species.

**Relationships.** Very similar to *P. gerdi*, spec. nov. and probably the adelphotaxon of that species.

## *Pseudoplatia gerdi*, spec. nov. Figs 16, 57

Types. Holotype: ♂, Irian Jaya, Fakfak-Pr., 20 km w. Timika, 30 m, 8.-11.1.1996, leg. A. Riedel (CBM).

**Diagnosis.** Characterized, at the same time, by moderate size, not microreticulate surface of elytra, spotted elytra, and wide, explanate pronotum with distinctly sinuate lateral margins. Distinguished from most similar *P. georgei*, spec. nov. by less dense punctuation of elytra; and from *P. riedeli*, spec. nov. by much more extensive dark colouration and slightly upturned apex of aedeagus.

### Description

Measurements. Length: 5.0 mm; width: 2.4 mm. Ratios. Width/length of prothorax: 1.83; width base/apex of prothorax: 1.21; length/width of elytra: 1.26; width of elytra/width of prothorax: 1.43.

Colour (Fig. 57). Upper and lower surfaces piceous. Pronotum and elytra with inconspicuous reddish margin. Elytra with a variegate pattern of numerous yellow to light reddish, small, longitudinal stripes which form three indistinct, oblique, irregularly v-shaped bands. Distribution of dark colour on elytra much more extended than light colour. Labrum reddish, mouth parts, antennae, and legs yellow to light reddish, tibia slightly darker than femora.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes but the coarse punctuation of frons more or less longitudinally confluent. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior margin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices rather acute, both palpi very sparsely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, barely surpassing basal angle of pronotum, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum.

Clypeus and anterior part of frons densely, irregularly, and coarsely punctate and with rather elongate, more or less erect pilosity, posterior part of head with finer punctures. Surface glossy.

Pronotum. Wide, slightly cordiform, dorsally depressed. Base much wider than apex, apex very gently concave, anterior angles faintly produced but evenly rounded. Sides anteriorly evenly rounded, widest slightly in front of middle, at position of anterior lateral seta. At this position margin with a very obtuse angle. Margin barely sinuate in front of basal angles which are distinct but slightly obtuse and not rectangular. Posterior marginal seta situated at basal angle. Base in middle gently convex though not pedunculate. Apex in middle not bordered, base bordered throughout. Lateral channel wide, depressed, lateral parts widely explanate, disk gently raised. Median line well impressed, almost attaining base and apex. Basal grooves rather deep, oblique, prebasal transverse sulcus fairly deep. Apical transverse sulcus distinct, but interrupted in middle. Microreticulation absent, punctuation dense, on disk rather fine and regular, on lateral parts coarse and somewhat confluent. Surface glossy, with dense, rather elongate, more or less erect, yellow pilosity. Lateral margin with a dense fringe of elongate se-

Elytra. Short and wide, rather quadrate, little widened behind middle, dorsally depressed. Humeri rounded, sides gently convex, apex oblique, fairly sinuate, sutural angles rounded off, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals slightly convex. Microreticulation absent, intervals rather densely and coarsely punctate in about two rows, punctures in parts irregularly confluent, about as coarse as punctures of striae. Pilosity dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3rd interval, the basal one near 3rd stria, both posterior ones near 2<sup>nd</sup> stria, though pores and the short erect setae hardly discernible within the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral margin with a dense fringe of elongate setae. Surface very glossy. Posterior wings fully developed.

Lower surface. Lower surface of head barely pilose, lower surfaces of prosternum, meso- and metathorax and of abdomen densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect. Metepisternum comparatively short, <1.5× as long as wide at apex. Terminal abdominal sternum in male quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with 3-4 minute

denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically squamose.

Male genitalia (Fig. 16). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and short and wide basis. Aedeagus elongate, lower surface gently concave, apex elongate, faintly curved up at tip and to the right side, obtuse. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres rather elongate, left one transverse at apex and much larger than right one.

Female genitalia. Unknown. Variation. Unknown.

Distribution. Western Irian Jaya.

Collecting circumstances. Probably sieved from logs in rain forest at low altitude.

**Etymology.** The name honours Prof. Gerd Müller-Motzfeld, renowned authority of Bembidiini, on behalf of his 65<sup>th</sup> birthday.

Relationships. See under P. riedeli, spec. nov.

## Pseudoplatia recticollis, spec. nov. Figs 17, 58

Types. Holotype: ♂, D. N. Guinea, 850 m, Etappenbg. 28.X.-XI.11, Kais. Augustafl. Exp. Bürgers S. G. (MNHB).

**Diagnosis.** Characterized, at the same time, by moderate size, not microreticulate surface of elytra, spotted elytra, and wide, explanate pronotum. Distinguished from most similar *P. georgei*, spec. nov. by less dense punctuation of elytra; and from *P. riedeli*, spec. nov., *P. gerdi*, spec. nov., and *P. subnitens* (Darlington) by not sinuate lateral margins of prothorax, slightly longer elytra, and still microreticulate surfaces of head and pronotum.

#### Description

Measurements. Length: 5.4 mm; width: 2.5 mm. Ratios. Width/length of prothorax: 1.83; width base/apex of prothorax: 1.26; length/width of elytra: 1.35; width of elytra/width of prothorax: 1.43.

Colour (Fig. 58). Upper surface dark piceous, but neck, clypeus, labrum, and lateral margins of pronotum and elytra reddish. Lower surface reddish except for the dark thoracic episterna and epimera. Elytra with a variegate pattern of numerous reddish, longitudinal stripes which form three indistinct, oblique, irregularly v-shaped bands. Distribution of light colour on elytra slightly more extended than

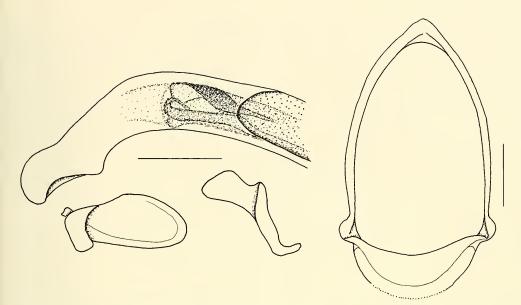


Fig. 17. Pseudoplatia recticollis, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

dark colour. Mouth parts, antennae, and legs light reddish, tibia slightly darker than femora.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes but the coarse punctuation of frons more or less longitudinally confluent. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior margin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices rather acute, both palpi very sparsely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, barely surpassing basal angle of pronotum, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Superficial traces of microreticulation present on whole surface between punctuation, present and isodiametric on labrum. Clypeus and anterior part of frons densely, irregularly, and coarsely punctate and with rather elongate, more or less erect pilosity, posterior part of head with finer punctures. Surface moderately glossy.

Pronotum. Wide, not cordiform, dorsally rather depressed. Base much wider than apex, apex gently concave, anterior angles slightly produced but evenly rounded. Sides evenly rounded throughout, widest slightly in front of middle, at position of anterior lateral seta. Margin not sinuate in front of basal angles which are distinct but slightly obtuse

and not rectangular. Posterior marginal seta situated at basal angle. Base in middle gently convex though not pedunculate. Apex in middle not bordered, base bordered throughout. Lateral channel wide, depressed, lateral parts widely explanate, not at all upturned, disk gently raised. Median line well impressed, almost attaining base and apex. Basal grooves moderately deep, oblique, prebasal transverse sulcus rather shallow. Apical transverse sulcus shallow, barely interrupted in middle. Superficial traces of microreticulation present, punctuation dense though irregular, somewhat confluent, on disk moderately fine, on lateral parts coarse and rugose. Surface moderately glossy, with dense, rather elongate, more or less erect, yellow pilosity. Lateral margin with a dense fringe of elongate setae.

Elytra. Comparatively elongate, rather rectangular, barely widened behind middle, dorsally depressed. Humeri rounded, sides almost parallel, apex oblique, fairly sinuate, sutural angles rounded, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals slightly convex. Microreticulation absent, intervals rather densely and coarsely punctate in 2-3 rows, punctures in parts irregularly confluent, about as coarse as punctures of striae. Pilosity dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3rd interval, the basal one near 3<sup>rd</sup> stria, both posterior ones near 2<sup>nd</sup> stria, though pores and the short erect setae hardly discernible within the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral

margin with a dense fringe of elongate setae. Surface glossy. Posterior wings fully developed.

Lower surface. Lower surfaces of head, prosternum, meso- and metathorax, and abdomen rather densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect. Metepisternum comparatively short, <1.5 × as long as wide at apex. Terminal abdominal sternum in male quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with three minute denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically squamose.

Male genitalia (Fig. 17). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and short and wide basis that is partly destroyed. Aedeagus moderately elongate, lower surface gently concave, apex unknown, because the apical third of aedeagus is destroyed. Orificium very large, almost completely situated on left side. Internal sac apparently rather simply folded, without any sclerotized parts. Both parameres moderately elongate, left one much larger than right one.

Female genitalia. Unknown. Variation. Unknown.

**Distribution.** North-western Papua New Guinea. Known only from type locality

Collecting circumstances. Unknown.

**Etymology.** The name refers to the straight lateral pronotal margins in front of the basal angles.

**Relationships.** Referring to external characters, in particular the still present microreticulation of head and pronotum, less closely related to all species of the *riedeli-*group (*P. riedeli, P. gerdi, P. subnitens, P. georgei*), but the relationships remain somewhat obscure, because the apical part of the male aedeagus is yet unknown.

## Pseudoplatia georgei, spec. nov. Figs 18, 59

Types. Holotype: ♂, Irian Jaya, Jayawija-Pr., Yalmabi, 1200-1400 m, 8.X.1996, leg. A. Riedel (CBM).

**Diagnosis.** Characterized, at the same time, by moderate size, not microreticulate surface of elytra, spotted elytra, and wide, explanate pronotum. Distinguished from all similar species by the dense punctuation of elytra.

## Description

Measurements. Length: 5.6 mm; width: 2.65 mm. Ratios. Width/length of prothorax: 1.84; width base/apex of prothorax: 1.23; length/width of elytra: 1.37; width of elytra/width of prothorax: 1.43.

Colour (Fig. 59). Upper surface almost black, but neck and lateral margins of pronotum and elytra indistinctly reddish. Lower surface reddish to light piceous. Elytra with a variegate pattern of numerous short, yellow, longitudinal stripes which form three indistinct, oblique, irregularly v-shaped bands. Distribution of dark colour on elytra slightly more extended than light colour. Labrum reddish, mouth parts, antennae, and legs yellow to light reddish, tibiae slightly darker than femora.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes but the coarse punctuation of frons more or less longitudinally confluent. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior margin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices rather acute, both palpi very sparsely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, barely surpassing basal angle of pronotum, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Clypeus and anterior part of frons densely, irregularly, coarsely punctate and with rather elongate, more or less erect pilosity, posterior part of head with finer punctures. Surface glossy.

Pronotum. Wide, barely cordiform, dorsally depressed. Base much wider than apex, apex very gently concave, anterior angles faintly produced but evenly rounded. Sides anteriorly evenly rounded, widest about at middle, at position of anterior lateral seta. Margin barely sinuate in front of basal angles which are distinct but slightly obtuse and not rectangular. Posterior marginal seta situated at basal angle. Base in middle gently convex though not pedunculate. Apex in middle not bordered, base bordered throughout. Lateral channel wide, depressed, lateral parts widely explanate, slightly upturned, disk gently raised. Median line well impressed, almost attaining base and apex. Basal grooves rather deep, oblique, prebasal transverse sulcus fairly deep. Apical transverse sulcus distinct, but interrupted in middle. Microreticulation absent, punctuation dense, on disk rather fine and regular, on lateral parts coarse and somewhat confluent.

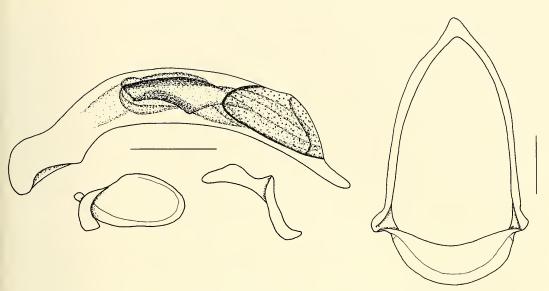


Fig. 18. Pseudoplatia georgei, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

Surface glossy, with dense, rather elongate, more or less erect, yellow pilosity. Lateral margin with a dense fringe of elongate setae.

Elytra. Comparatively elongate, rather rectangular, not widened behind middle, dorsally depressed. Humeri rounded, sides gently convex, apex oblique, fairly sinuate, sutural angles rounded, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals slightly convex. Microreticulation absent, intervals densely and moderately coarsely punctate in 4-5 rows, punctures rather regular, barely confluent, about as coarse as punctures of striae. Pilosity dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3rd interval, the basal one near 3<sup>rd</sup> stria, both posterior ones near 2<sup>nd</sup> stria, though pores and the short erect setae hardly discernible within the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral margin with a dense fringe of elongate setae. Surface very glossy. Posterior wings fully developed.

Lower surface. Lower surface of head barely pilose, lower surfaces of prosternum, meso- and metathorax, and of abdomen densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect. Metepisternum comparatively short, <1.5× as long as wide at apex. Terminal abdominal sternum in male quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with four minute denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically squamose.

Male genitalia. (Fig. 18). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and short and wide basis. Aedeagus elongate, lower surface regularly concave, apex elongate, obtuse. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Right paramere elongate, left one rather short, though much larger than right one.

Female genitalia. Unknown.

Variation. Unknown.

**Distribution.** Eastern central Irian Jaya. Known only from type locality.

**Collecting circumstances.** Probably sieved from logs in rain forest.

**Etymology.** The name honours Prof. George Ball, outstanding authority of carabid beetles, on behalf of his  $80^{\text{th}}$  birthday.

**Relationships.** Closely related to *P. riedeli*, spec. nov. and *P. gerdi*, spec. nov., and perhaps the adelphotaxon of both species.

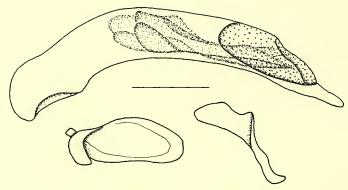


Fig. 19. Pseudoplatia subnitens (Darlington). Male genitalia: Aedeagus and parameres. Scale: 0.25 mm.

## Pseudoplatia subnitens (Darlington) (comb. nov.) Figs 19, 60

Minuthodes subnitens Darlington, 1968: 97; Lorenz 1998: 434.

Examined types. Holotype: 3, DUTCH NEW GUINEA Japen I., Mt. Baduri. 1000 ft., viii.1938. L. E. Cheesman. B.M. 1938-593. / Holotype *Minuthodes subnitens* Darl. (BMNH).

**Diagnosis.** Characterized, at the same time, by fairly large size, not microreticulate surface or elytra, spotted elytra, and wide, explanate pronotum with distinctly sinuate lateral margins. Distinguished from *P. punctatipennis*, spec. nov. by less dense punctuation of elytra, and from all other similar species by combination of elongate elytra **and** distinctly sinuate pronotum.

## Description

Measurements. Length: 5.75 mm; width: 2.7 mm. Ratios. Width/length of prothorax: 1.86; width base/apex of prothorax: 1.22; length/width of elytra: 1.39; width of elytra/width of prothorax: 1.45.

Colour (Fig. 60). Upper surface almost black, but neck and lateral margins of pronotum and elytra very indistinctly reddish. Lower surface piceous. Elytra with a variegate pattern of numerous light reddish, longitudinal stripes which form three indistinct, oblique, irregularly v-shaped bands. Distribution of light colour on elytra slightly more extended than dark colour. Labrum reddish, mouth parts, antennae, and legs light reddish, tibiae slightly darker than femora.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes but the coarse punctuation of frons more or less longitudinally confluent. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior mar-

gin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices rather acute, both palpi very sparsely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, surpassing basal angle of pronotum by one antennomere, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Clypeus and anterior part of frons with dense, rather regular, moderately coarse punctuation and with rather elongate, more or less erect pilosity, posterior part of head with slightly finer punctures. Surface glossy.

Pronotum. Wide, slightly cordiform, dorsally depressed. Base much wider than apex, apex gently concave, anterior angles slightly produced but evenly rounded. Sides anteriorly evenly rounded, widest about at middle, at position of anterior lateral seta. Margin distinctly sinuate in front of basal angles which are quite angulate and almost rectangular. Posterior marginal seta situated at basal angle. Base in middle gently convex though not pedunculate. Apex in middle not bordered, base bordered throughout. Lateral channel wide, depressed, lateral parts widely explanate, faintly upturned, disk gently raised. Median line well impressed, almost attaining base and apex. Basal grooves rather deep, oblique, prebasal transverse sulcus fairly deep. Apical transverse sulcus distinct, but interrupted in middle. Microreticulation absent, punctuation dense, on disk rather fine and regular, on lateral parts coarse and somewhat confluent. Surface glossy, with dense, rather elongate, more or less erect, yellow pilosity. Lateral margin with a dense fringe of elongate setae.

Elytra. Comparatively elongate, rather rectangular, not widened behind middle, dorsally depressed. Humeri rounded, sides gently convex, apex oblique, fairly sinuate, sutural angles rounded, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals slightly convex. Microreticulation absent, intervals coarsely and moderately densely punctate in about two rows, punctures rather regular, barely confluent, about as coarse as punctures of striae. Pilosity rather dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3rd interval, the basal one near 3rd stria, both posterior ones near 2nd stria, though pores and the short erect setae hardly discernible within the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral margin with a dense fringe of elongate setae. Surface very glossy. Posterior wings fully developed.

Lower surface. Lower surface of head barely pilose, lower surfaces of prosternum, meso- and metathorax, and abdomen densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect. Metepisternum comparatively short, <1.5× as long as wide at apex. Terminal abdominal sternum in male quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with 3-4 minute denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically squamose.

Male genitalia (Fig. 19). Rather small in comparison to body size. Genital ring lacking in holotype. Aedeagus rather elongate, lower surface gently concave in basal two thirds, then gently bisinuate, apex rather elongate, obtuse. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres fairly elongate, left one much larger than right one.

Female genitalia. Unknown.

Variation. Unknown.

**Distribution.** Japen Island, Irian Jaya. Known only from type locality.

Collecting circumstances. Unknown.

New records. None.

**Relationships.** Probably the adelphotaxon of *P. georgei*, spec. nov., and *P. riedeli*, spec. nov. and *P. gerdi*, spec. nov.

## Pseudoplatia rossi (Darlington) (comb. nov.) Figs 20, 61

Minuthodes rossi Darlington, 1968: 97; Lorenz 1998: 434.

**Types.** Holotype:  $\delta$ , Maffin Bay, Dutch N. Guinea, IX.44 E. S. Ross Coll. / Holotype *Minuthodes rossi* D. (CAS type Nr. 11212).

**Diagnosis.** Characterized, at the same time, by large size, microreticulate surface of elytra, spotted elytra, and wide, explanate pronotum with distinctly sinuate lateral margins. Distinguished from *P. latipennis*, spec. nov. by laterally less convex elytra and longer light elytral spots, and by narrower prothorax; and from *P. missai*, spec. nov. by wider prothorax with wider base, and slightly shorter elytra.

## Description

Measurements. Length: 6.6 mm; width: 3.05 mm. Ratios. Width/length of prothorax: 1.75; width base/apex of prothorax: 1.21; length/width of elytra: 1.34; width of elytra/width of prothorax: 1.40.

Colour (Fig. 61). Upper surface piceous, but neck, clypeus, labrum, the wide lateral margins of pronotum and the narrow margins of elytra dark reddish, pronotum also in middle of apex and base dark reddish. Lower surface of head, thorax, and abdomen reddish, except for episterna and epimera. Elytra with a variegate pattern of numerous reddish, more or less elongate spots which form three indistinct, oblique, irregularly v-shaped bands. Distribution of light colour on elytra about as extended as dark colour. Mouth parts, antennae, and legs reddish, femora light reddish.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes but the coarse punctuation of frons more or less longitudinally confluent. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior margin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices rather acute, both palpi very sparsely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, surpassing basal angle of pronotum by one antennomere, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Clypeus and anterior part of frons with dense, rather regular, moderately coarse punctuation and with elongate, more or less erect pilosity, posterior part of head with slightly finer punctures. Surface glossy.

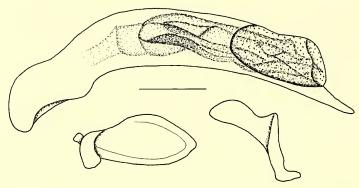


Fig. 20. Pseudoplatia rossi (Darlington). Male genitalia: Aedeagus and parameres. Scale: 0.25 mm.

Pronotum. Wide, slightly cordiform, dorsally depressed. Base much wider than apex, apex gently concave, anterior angles slightly produced but evenly rounded. Sides anteriorly evenly rounded, widest about at middle, at position of anterior lateral seta. Lateral margin faintly sinuate in front of basal angles which are slightly obtuse but almost rectangular. Posterior marginal seta situated at basal angle. Base in middle gently convex though not pedunculate. Apex in middle not bordered, base bordered throughout. Lateral channel wide, depressed, lateral parts widely explanate, but barely upturned, disk very gently raised. Median line well impressed, almost attaining base and apex. Basal grooves rather shallow, oblique, prebasal transverse sulcus shallow. Apical transverse sulcus very shallow, slightly interrupted in middle. Microreticulation absent, punctuation very dense, on disk rather fine and but slightly confluent, on lateral parts coarser and more rugose. Surface glossy, with dense, elongate, more or less erect, yellow pilosity. Lateral margin with a dense fringe of elongate setae.

Elytra. Moderately elongate, rather rectangular, not widened behind middle, dorsally depressed. Humeri rounded, sides almost parallel, apex oblique, fairly sinuate, sutural angles rounded, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals slightly convex. Traces of microreticulation present, intervals coarsely and moderately densely punctate in 2-3 rows, punctures rather regular, barely confluent, about as coarse as punctures of striae. Pilosity rather dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3<sup>rd</sup> interval, the basal one near 3<sup>rd</sup> stria, both posterior ones near 2<sup>nd</sup> stria, though pores and the short erect setae hardly discernible within

the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral margin with a dense fringe of elongate setae. Surface glossy. Posterior wings fully developed.

Lower surface. Lower surface of head barely pilose, lower surfaces of prosternum, meso- and metathorax, and abdomen densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect, on abdomen declined. Metepisternum comparatively short, <1.5 × as long as wide at apex. Terminal abdominal sternum in male quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with 3-4 minute denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically squamose.

Male genitalia (Fig. 20). Rather small in comparison to body size. Genital ring lacking in holotype. Aedeagus rather elongate, lower surface very gently concave, apex elongate, obtuse. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres fairly elongate, left one with acute apex, much larger than right one.

Female genitalia. Unknown.

Variation. Unknown.

**Distribution.** Central northern Irian Jaya. Known only from type locality.

Collecting circumstances. Unknown.

New records. None.

**Relationships.** Closely related to *P. missai*, spec. nov. with which *P. rossi* probably forms the adelphotaxon of *P. latipennis*, spec. nov.

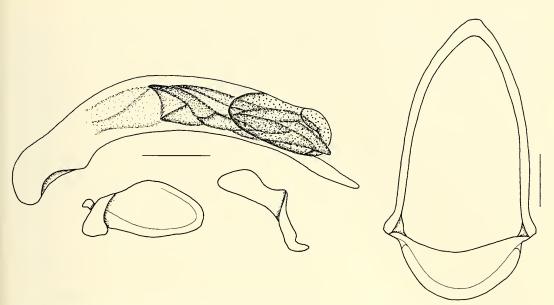


Fig. 21. Pseudoplatia missai, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

## Pseudoplatia missai, spec. nov. Figs 21, 31, 62

**Types.** Holotype: ♂, Canopy mission P.N.G. Madang province, Baiteta, FOG M10, 29. VI.1994, Leg. Olivier Missa (IRSNB). – Paratypes: 21♂♂, 21♀♀, same locality and same collector: FOG M1, 22.VI.1993; FOG M4, 22.IV.1993; FOG M6, 18.V.1993; FOG M10, 14.VI.1994; FOG M10, 29.VI.1994; FOG T1, 19.III.1993; FOG T2, 24.VI.1994; FOG T3, 31.III. 1993; FOG T4, 6.IV.1993; FOG T9, 1.VI.1993; FOG T9, 8.VI.1993; FOG T10, 24.III.1994; FOG T11, 20.IV.1994; FOG T12, 8.VI.1994 (CBM, RSNB).

**Diagnosis.** Characterized, at the same time, by large size, microreticulate surface of elytra, spotted elytra, and wide, explanate pronotum with distinctly sinuate lateral margins. Distinguished from both, *P. latipennis*, spec. nov. and *P. rossi* (Darlington) by narrower prothorax with narrower base; in addition distinguished from *P. latipennis* by laterally less convex elytra and larger light elytral spots; and from *P. rossi* by slightly longer elytra.

## Description

Measurements. Length: (6.1)6.5-6.9 mm; width: (2.8)3.1-3.2 mm. Ratios. Width/length of prothorax: 1.66-1.68; width base/apex of prothorax: 1.13-1.18; length/width of elytra: 1.38-1.41; width of elytra/width of prothorax: 1.44-1.50.

Colour (Fig. 62). Upper and lower surfaces dark piceous to almost black, in some specimens neck, clypeus, labrum, the wide lateral margins of pronotum and the narrow margins of elytra dark reddish,

pronotum also in middle of apex and base dark reddish. Lower surface usually piceous to almost black. Elytra with a variegate pattern of numerous reddish, more or less elongate spots which form three indistinct, oblique, irregularly v-shaped bands. Distribution of light colour on elytra about as extended as dark colour. Mouth parts, antennae, and legs reddish, femora light reddish.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes but the coarse punctuation of frons more or less longitudinally confluent. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior margin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices rather acute, both palpi very sparsely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, not attaining basal angle of pronotum, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Clypeus and anterior part of frons with dense, rather regular, coarse punctuation and with elongate, more or less erect pilosity, posterior part of head with slightly finer punctures. Surface glossy.

Pronotum. Moderately wide, slightly cordiform, though more quadrate than in other species, dor-

sally depressed. Base much wider than apex, apex gently concave, anterior angles slightly produced but evenly rounded. Sides anteriorly evenly rounded, widest about at middle, at position of anterior lateral seta. Margin more or less distinctly sinuate in front of basal angles which are rather obtuse but almost rectangular. Posterior marginal seta situated at basal angle. Base in middle gently convex though not pedunculate. Apex in middle not bordered, base bordered throughout. Lateral channel wide, depressed, lateral parts rather widely explanate, not upturned, disk gently raised. Median line well impressed, almost attaining base and apex. Basal grooves rather shallow, oblique, prebasal transverse sukcus barely indicated. Apical transverse sulcus shallow, slightly interrupted in middle. Microreticulation absent, punctuation very dense, on disk moderately fine and rather regular, on lateral parts coarser and somewhat confluent. Surface glossy, with dense, rather elongate, more or less erect, yellow pilosity. Lateral margin with a dense fringe of elongate setae.

Elytra. Comparatively elongate, rather rectangular, very gently widened behind middle, dorsally rather depressed. Humeri rounded, sides very gently convex, apex oblique, fairly sinuate, sutural angles rounded, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals slightly convex. Traces of microreticulation present, intervals densely and coarsely punctate in about three rows, punctures rather regular, barely confluent, about as coarse as punctures of striae. Pilosity rather dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3rd interval, the basal one near 3<sup>rd</sup> stria, both posterior ones near 2<sup>nd</sup> stria, though pores and the short erect setae hardly discernible within the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral margin with a dense fringe of elongate setae. Surface fairly glossy. Posterior wings fully developed.

Lower surface. Lower surface of head barely pilose, lower surfaces of prosternum, meso- and metathorax, and abdomen densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect, on abdomen declined. Metepisternum comparatively short, c.1.5 × as long as wide at apex. Terminal abdominal sternum in both sexes quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with 3-4 minute denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically squamose.

Male genitalia (Fig. 21). Rather small in comparison to body size. Genital ring of moderate size, narrow, almost regularly triangular-convex, with

narrow symmetric apex and short and rather wide basis. Aedeagus elongate, lower surface gently concave to near apex, apex elongate, obtuse, feebly upturned. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres fairly elongate, left one much larger than right one.

Female genitalia (Fig. 31). Stylomeres very small. Stylomere 1 asetose at apical rim, stylomere 2 moderately elongate, slightly curved, with moderately elongate, fairly acute apex; with two moderately elongate ventro-lateral ensiform setae, one extremely elongate dorso-median ensiform seta, and a small groove in apical third, but apparently without a nematiform seta. Lateral plate asetose.

Variation. Some variation noted in size and colouration of elytra. One extraordinarily small specimen has less sinuate lateral margins of pronotum than usual, but similar male genitalia.

**Distribution.** Eastern central Papua New Guinea. Known only from type locality.

Collecting circumstances. Fogged from trunk or lower canopy of standing trees of the species *Dracoutomelon dao* and *Pometia pinnata* in lowland rain forest close to the coast.

**Etymology.** The name honours O. Missa, the collector of this and of a large number of additional carabid species at Baiteta.

Relationships. See under P. rossi (Darlington).

## Pseudoplatia latipennis, spec. nov. Figs 22, 63

Types. Holotype: &, 16.-18.7.1996, 22, Schüle/Stüben, West Papua, Fakfak, 2 km östl. des Flughafen, Garten in Sek. Wald (CBM).

**Diagnosis.** Characterized, at the same time, by large size, microreticulate surface of elytra, spotted elytra, and wide, explanate pronotum with distinctly sinuate lateral margins. Distinguished from both *P. rossi* (Darlington) and *P. missai*, spec. nov. by laterally much more convex elytra, smaller light elytral spots, and wider prothorax.

### Description

Measurements. Length: 6.7 mm; width: 3.2mm. Ratios. Width/length of prothorax: 1.83; width base/apex of prothorax: 1.20; length/width of elytra: 1.31; width of elytra/width of prothorax: 1.39.

Colour (Fig. 63). Upper surface piceous, but

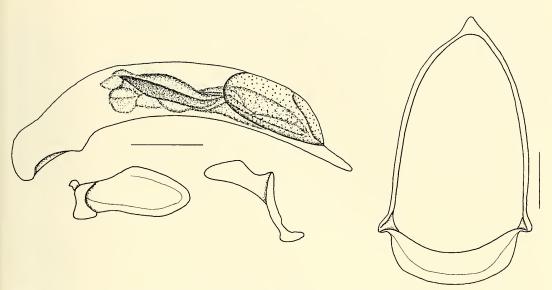


Fig. 22. Pseudoplatia latipennis, spec. nov. Male genitalia: Aedeagus, parameres, and genital ring. Scales: 0.25 mm.

neck, clypeus, labrum, and wide lateral margins of pronotum and elytra reddish, pronotum also in middle of apex and base reddish. Lower surface of head and thorax reddish, except for episterna and epimera, of abdomen piceous. Elytra with a variegate pattern of numerous short, yellow, drop-shaped spots which form three indistinct, oblique, irregularly v-shaped bands. Distribution of dark colour on elytra more extended than light colour. Mouth parts, antennae, and legs light reddish, femora yellow.

Head. Wide, though definitely narrower than pronotum. Frons in anterior part irregularly impressed. No longitudinal furrows medially of eyes but the coarse punctuation of frons more or less longitudinally confluent. Eyes large, markedly protruding. Clypeo-frontal suture deep. Anterior margin of clypeus straight. Labrum elongate, apex in middle straight, 6-setose, lateral margins with additional hairs. Mandibles with some longitudinal furrows on upper surface. Apical palpomeres longer than penultimate palpomeres, apices rather acute, both palpi very sparsely pilose. Mentum with unidentate, at apex obtuse tooth. Antenna short, surpassing basal angle of pronotum by one antennomere, median antennomeres about as long as wide, densely pilose from apex of 4th antennomere, basal antennomeres fairly densely setose. Microreticulation absent from frons and clypeus, present and isodiametric on labrum. Clypeus and anterior part of frons with dense, rather regular, moderately coarse punctuation and with fairly elongate, more or less erect pilosity, posterior part of head with slightly finer punctures. Surface glossy.

Pronotum. Wide, slightly cordiform, dorsally depressed. Base much wider than apex, apex gently concave, anterior angles slightly produced but evenly rounded. Sides anteriorly evenly rounded, widest about at middle, at position of anterior lateral seta. Margin distinctly sinuate in front of basal angles which are slightly obtuse but almost rectangular. Posterior marginal seta situated at basal angle. Base in middle gently convex though not pedunculate. Apex in middle not bordered, base bordered throughout. Lateral channel wide, depressed, lateral parts widely explanate, faintly upturned, disk gently raised. Median line well impressed, almost attaining base and apex. Basal grooves rather deep, oblique, prebasal transverse sulcus fairly deep. Apical transverse sulcus shallow, interrupted in middle. Disk on either side with a fairly deep, circular impression. Traces of microreticulation present, punctuation dense, on disk rather fine and more or less regular, on lateral parts coarser and somewhat confluent. Surface glossy, with dense, rather elongate, rather erect, yellow pilosity. Lateral margin with a dense fringe of elongate setae.

Elytra. Comparatively short, rather quadrate though laterally rounded, not widened behind middle, dorsally depressed. Humeri rounded, sides evenly convex, apex oblique, fairly sinuate, sutural angles rounded, elytra slightly dehiscent at suture. Marginal channel narrow throughout. Striae impressed, irregularly and coarsely punctate, intervals slightly convex. Traces of microreticulation present, intervals coarsely and densely punctate in 3-4 rows, punctures fairly regular, barely confluent, about as

coarse as punctures of striae. Pilosity dense, yellow, fairly elongate, somewhat declined. Three discal pores situated in 3<sup>rd</sup> interval, the basal one near 3<sup>rd</sup> stria, both posterior ones near 2<sup>nd</sup> stria, though pores and the short erect setae hardly discernible within the dense punctuation and pilosity. Part of marginal setae very elongate. Lateral margin with a dense fringe of elongate setae. Surface fairly glossy. Posterior wings fully developed.

Lower surface. Lower surface of head barely pilose, lower surfaces of prosternum, meso- and metathorax, and abdomen densely punctate and pilose, only proepisterna and -epimera glabrous, pilosity more or less erect, on abdomen more declined. Metepisternum comparatively short, <1.5 × as long as wide at apex. Terminal abdominal sternum in male quadrisetose.

Legs. Of moderate size, plainly pilose, including upper surfaces of tibiae. Claws large, with 3-4 minute denticles. Three basal tarsomeres of male protarsus slightly widened and asymmetrically squamose.

Male genitalia (Fig. 22). Rather small in comparison to body size. Genital ring of moderate size, almost regularly triangular-convex, with narrow symmetric apex and very short and wide basis. Aedeagus elongate, lower surface evenly concave, apex elongate, obtuse. Orificium very large, almost completely situated on left side. Internal sac rather simply folded, without any sclerotized parts and also without a denticulate plate within orificium. Both parameres elongate, left one much larger than right one.

Female genitalia. Unknown. Variation. Unknown.

**Distribution.** Western Irian Jaya. Known only from type locality.

**Collecting circumstances.** Taken from low vegetation in secondary forest.

**Etymology.** The name refers to the wide pronotum of this species.

**Relationships.** Probably the adelphotaxon of *P. rossi* (Darlington) and *P. missai*, spec. nov.

## Genus Agonocheila Chaudoir

Chaudoir, 1848: 119; 1869: 223; Csiki 1932: 1379; Darlington 1968: 118; Moore et al. 1987: 288; Lorenz 1998: 434.

Type species: Agonocheila guttata Chaudoir, 1848 (by monotypy).

**Diagnosis.** Genus of Lebiinae, very heterogenous in shape and structure. In the restricted sense as

designated in the present paper, *Agonocheila* is mainly characterized by the following character states: depressed body; more or less wide, depressed, and mostly distinctly cordiform pronotum; depressed, moderately ovate, but not quadrate elytra; presence of rather short, usually depressed pilosity on head, pronotum, and elytra; absence of a dense fringe of elongate setae on the margins of pronotum and elytra; sparsely pilose or impilose upper surface of tibiae; quadrisetose male and female terminal abdominal sternites; absence of a notch near apex of middle tibia in males; usually rather simple elytral pattern, bimaculate or quadrimaculate or with moderately variegate patches.

Examination of the male genitalia of half a dozen species from different species-groups within Agonocheila revealed quite differently shaped and structured aedeagi which diversity at present renders it impossible to draw any final conclusions about the extra- and intrageneric relationships.

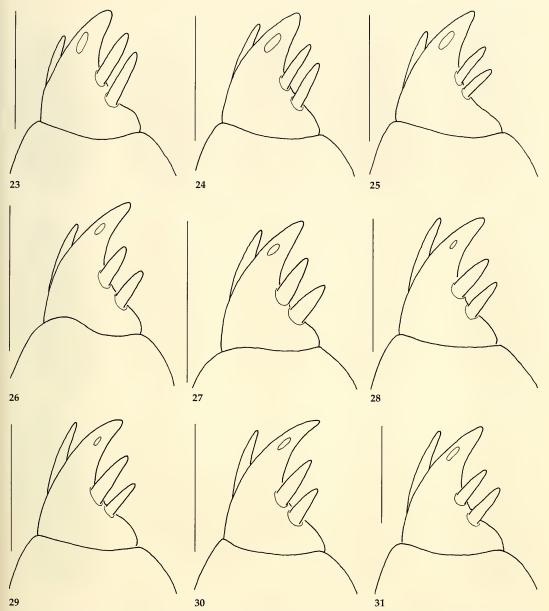
**Distribution.** The whole of Australia including Tasmania; introduced by man into New Zealand. At the present state of knowledge, not in New Guinea.

Relationships. This genus (or group of genera), together with *Minuthodes*, *Cheilagona*, and *Pseudoplatia*, forms a group of closely related genera though within this group *Agonocheila* probably is next related to *Minuthodes* and *Cheilagona*. However, a systematic examination of the male and female genitalia of the Australian species is needed to corroborate this opinion.

**Note.** This diagnosis is based on the examination of the type species of *Agonocheila*, *A. guttata* Chaudoir, and has been verified by the examination of 23 described and about 30 additional undeterminated Australian species. A thorough revision of the numerous existing Australian species probably will reveal a number of well characterized species-groups or subgenera, or even additional genera. At present, this is without the scope of this paper.

### Phylogenetic relations

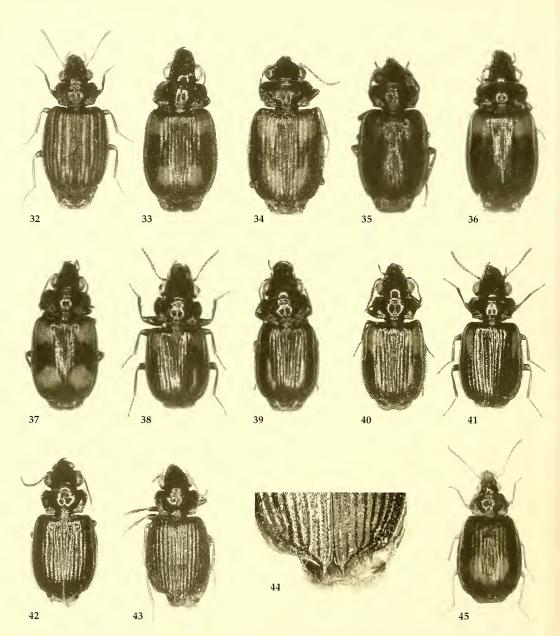
At present, and without a thorough taxonomic revision of the large number of Australian *Agonocheila* species, any considerations about the phylogenetic relations of the genera mentioned herein is difficult and also premature. This applies in particular, because the adelphotaxon of the whole complex is so far unknown, although the Australian genus *Philophloeus* Chaudoir may represent it. The question becomes even more difficult, because the numerous



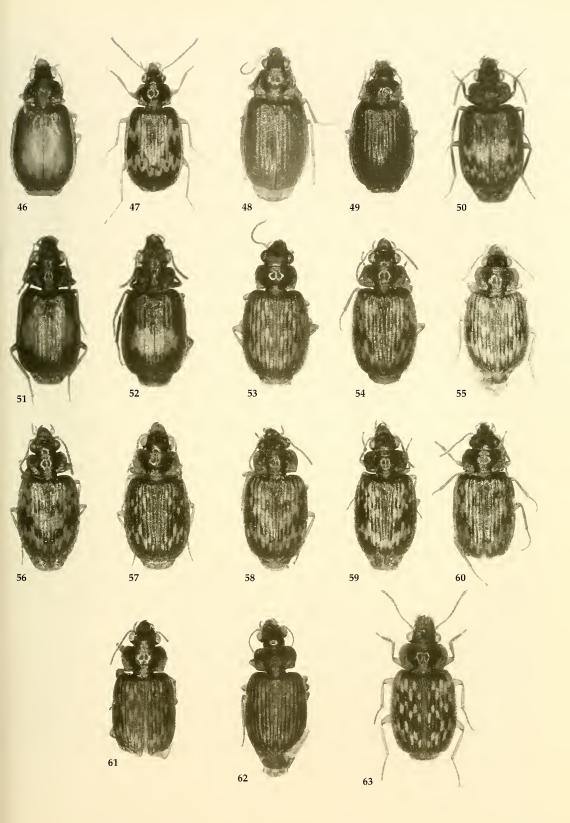
Figs 23-31. Female stylomeres. 23. *Minuthodes sexualis* (Darlington). 24. *M. rectimargo*, spec. nov. 25. *M. atrata*, spec. nov. 26. *Cheilagona variabilis* (Darlington). 27. *C. nigropicea*, spec. nov. 28. *Pseudoplatia minuthoides* (Darlington). 29. *P. drumonti*, spec. nov. 30. *P. riedeli*, spec. nov. 31. *P. missai*, spec. nov. Scales: 0.1 mm.

Australian species of *Philophloeus* and *Agonocheila* are corticolous or subcorticolous animals living mainly on the trunks of standing trees in open, commonly eucalpyt forest, whereas the extra-Australian species of *Minuthodes*, *Cheilagona* and *Pseudoplatia* apparently are rain forest dwelling species that are said to live on the bark and in moss of fallen logs,

but perhaps also more or less up on the trunks and even in the canopy of standing rain forest trees. Of a number of species of these genera, however, not even any collecting circumstances are recorded. Those Australian species of *Cheilagona* known to me, likewise live in rain forest, while some Australian *Minuthodes* occur in open eucalypt forest under bark.



Figs. 32-63. Habitus. 32. Minuthodes papuana (Sloane) (5.1 mm). 33. M. regularis Darlington (4.9 mm). 34. M. irregularis Darlington (5.5 mm). 35. M. metallica Darlington (5.0 mm). 36. M. biplagiata Baehr (5.2 mm). 37. M. multisetosa Baehr (5.3 mm). 38. M. sexualis Darlington (Mapia) (5.8 mm). 39. M. sexualis Darlington (w. Timika) (5.3 mm). 40. M. rectimargo, spec. nov. (Aseki) (4.7 mm). 42. M. atrata, spec. nov. (4.4 mm). 43. M. nigra (van Emden) (5.5 mm). 44. M. nigra (van Emden), apex of elytra. 45. Cheilagona gressitti gressitti (Darlington) (4.4 mm). 46. C. gressitti planata, subspec. nov. (4.1 mm). 47. C. variabilis (Darlington) (4.5 mm). 48. C. rufa (Darlington) (4.8 mm). 49. C. nigropicea, spec. nov. (4.9 mm). 50. P. expansa (Darlington) (5.5 mm). 51. P. dorsata dorsata (Darlington) (6.2 mm). 52. P. dorsata minor, subspec. nov. (5.4 mm). 53. Pseudoplatia minuthoides (Darlington) (4.2 mm). 54. P. sedlacekorum (Darlington) (4.7 mm). 55. P. drumonti, spec. nov. (4.8 mm). 56. P. riedeli, spec. nov. (5.3 mm). 57. P. gerdi, spec. nov. (5.0 mm). 58. P. recticollis, spec. nov. (5.4 mm). 59. P. georgei, spec. nov. (5.6 mm). 60. P. subnitens (Darlington) (5.75 mm). 61. P. rossi (Darlington) (6.6 mm). 62. P. missai, spec. nov. (6.7 mm). 63. P. latipennis, spec. nov. (6.7 mm).



The question arises, then, which habits is primary and which secondary.

Genus Minuthodes. Although this genus is rather homogeneous in body shape as well as in structure of male and female genitalia, in colouration as well as in microstructure of the surface it is quite diverse. Due to its spined elytra, M. nigra certainly is a highly evolved species, as is the sexualis-complex to which also M. brachydera Chaudoir from the Moluccas belongs, in view of the dentate femur of their females. If presence of elytral pattern is thought to be a basic character state, which is quite probable because all related genera likewise bear patterned elytra, the uniformly black or bluish colouration of M. atrata, M. brachydera, M. simplex, M. metallica, and M. nigra also should represent evolved character states. Some other character states likewise might be regarded apomorphic, e.g. reduction or complete absence of pilosity of surface, multiplication of tactile setae on pronotum and elytra, and development of a complex elytral pattern. If all these suggestions prove right, then species like M. regularis Darlington and M. irregularis Darlington should represent the basic stock of the whole genus.

This would mean, in other words, that the genus Minuthodes has its most basic species in New Guinea, whereas species being apomorphic in one or another way mostly occur at the margins of the genus' range, i.e. on the Moluccas, in northern Australia, on Solomon Islands, but also in New Guinea, although in the latter area they mainly occur in the extreme west or east, respectively. The genus Minuthodes, in its restricted sense, thus seems to have originated in New Guinea, and apparently certain stocks later spread to the west, east and south, where, in particular in the drier parts of Australia, several species finally changed their habits through adapting themselves to the life under bark of eucalypts in open sclerophyll forest or woodland.

Genus Cheilagona. This genus is very homogenous in body shape and markedly differs in this respect from all related genera. It is rather heterogenous, however, in elytral colour and pattern, as well as in shape and structure of the male aedeagus though not in shape of the male genital ring. Because male genitalia are not known from all species and not even from all taxa occurring in New Guinea, the relationships within the genus are not yet fully settled, but probably the male genitalia of C. g. gressitii are less evolved than those of C. variabilis and C. rufa. The absence of any elytral pattern in both New Guinean C. rufa and C. nigropicea likewise is an derived character state, because presence of elytral pattern most probably is a basic character in all re-

lated genera. Unfortunately, the Australian species of the genus have not been examined for their male genitalia, so their relationships are not yet settled and, as a consequence, suggestions about the biogeographic history of the genus are not possible now, apart from the statement, that uniformly coloured, unpatterned species have not yet been recorded from Australia.

Genus *Pseudoplatia*. Certainly *P. minuthoides* in certain characters of external and genitalic morphology is most plesiomorphic within the whole genus. As this species already possesses the elytral pattern composed of many elongate spots, the aberrant patterns of *P. dorsata* and *P. expansa* may be apomorphic in comparison with the spotted elytral pattern of the other species. All other species, however, are extremely similar with respect to shape, structure of surface, colour pattern, and even morphology of male and female genitalia, and thus, they presumably are very closely related and may have differentiated quite recently.

Such large number of closely related taxa is characteristic for New Guinea the fauna of which island is comparatively young but has achieved a surprisingly great taxonomic diversity that probably is due to the rugged montane landscape, remarkable orogenic events in rather recent times, and the composition of this island from a number of previously separated terranes of different origins.

None of the mentioned genera has any species in the Oriental Region proper, if the occurrence of two species of *Minuthodes* on Sulawesi and the Moluccas is regarded due to their quite recent immigration from the Papuan Subregion. For *Minuthodes* and *Pseudoplatia*, at least, the Papuan subregion seems to represent the centre of distribution, whereas *Cheilagona* is also represented in northern Australia but without our knowing, how many Australian species actually belong to that genus and where the original stock of this genus may have originated. Although a few *Minuthodes* species exist in Australia, New Guinea bears the highest species diversity and also the presumptive most basal species of the whole genus.

Most probably the whole complex originated from rain forest living species and all adaptations to life on and under bark in drier environments then would be secondary. But this does not answer the question in which region this complex originated which could be solved only by a complete cladistic survey of the whole complex of pericaline Lebiinae or at least of those that range through the Oriental and Australian regions.

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Checklist of the New Guinean species of the genera Minuthodes Andrewes, Cheilagona, gen. nov., and Pseudoplatia, gen. nov. (PNG: Papua New Guinea, IJ: Province of Papua, former Irian Jaya)

e. PNG

#### Genus Minuthodes Andrewes

atrata spec nov

minute, opec. nov.	C. 1110
biplagiata Baehr	w. IJ
irregularis Darlington	ne IJ
metallica Darlington	e. PNG
multisetosa Baehr	w. IJ
nigra (Van Emden)	Solomon Islands: Tulaghi Is.
papuana (Sloane) wh	ole New Guinea, New Britain
rectimargo, spec. nov.	whole New Guinea
regularis Darlington	whole New Guinea
sexualis Darlington	whole New Guinea
simplex Darlington	e. PNG: Goodenough Is.

#### Genus Cheilagona, gen. nov.

gressitti gressitti (Darlington)	whole New Guinea
gressitti planata, subspec. nov.	ce. IJ
nigropicea, spec. nov.	w. IJ
rufa (Darlington)	e. PNG
variabilis (Darlington)	whole New Guinea

#### Genus Pseudovlatia, gen. nov

Genus Pseudoplatia, gen. nov.	
dorsata dorsata (Darlington)	PNG, ce. IJ
dorsata minor, subspec. nov.	ce. PNG
drumonti, spec. nov.	ce. PNG
expansa (Darlingon)	PNG, ce. IJ
georgei, spec. nov.	e. IJ
gerdi, spec. nov.	w. IJ
latipennis, spec. nov.	w. IJ
minuthoides (Darlington)	ce. PNG
missai, spec. nov.	ce. PNG
recticollis, spec. nov.	n. PNG
riedeli, spec. nov.	w. IJ
rossi (Darlington)	n. IJ
sedlacekorum (Darlington)	ce. PNG
subnitens (Darlington)	n. IJ: Japen Is.

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